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ABSTRACT

This book contains the 72 papers presented and discussed at the 1962 International Reading Association conference. The book is divided into five parts: the keynote address, ("Challenge and Experiment in the Teaching of Reading"), 30 papers that expand the theme set by the keynote address, 21 research studies in reading fields, 10 evaluations of various phases of reading instruction in the United States, and 11 papers presented in discussion sessions that preceded the conference. Papers discuss aspects of reading instruction at all educational levels, teaching methods, content reading, teacher education, use of instructional materials, reading programs, reading comprehension, reading skills, and multimedia instruction. (RL)

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CHALLENGE AND EXPERIMENT IN READING

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J. ALLEN FIGUREL, Editor
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THE INTERNATIONAL READING ASSOCIATION came into being January 1, 1956, through the merger of the International Council for the Improvement of Reading Instruction and the National Association for Remedial Teaching. It is a professional organization for those who are genuinely concerned (1) with the improvement of reading programs, both developmental and remedial, for children and adults, and (2) with providing adequate guidance in all situations in which reading serves as a vital aid to learning.

Membership is open to all persons engaged in the teaching or supervision of reading at any school level, to parents, and to all others interested in the purposes of the Association. Members represent the 50 states of the United States, Puerto Rico, and fourteen other nations.

Information about membership in the International Reading Association may be obtained from the Executive Secretary-Treasurer, Dr. James M. McCallister, Room 707-709, 5454 South Shore Drive, Chicago, Illinois.

The Reading Teacher, the Association's official magazine, published six times during the school year, may be ordered from the same source.

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FOREWORD

CHALLENGE AND EXPERIMENT IN READING is the report of the Seventh Annual Conference of the International Reading Association held in San Francisco, May 3, 4, and 5, 1962. Seventy-two papers were presented at the Conference. These make up the 1962 *Proceedings*. Two hundred and twenty-nine reading experts participated in the program.

The report of the three-day program is divided into five parts: Part I—Challenge and Experiment in Teaching Reading contains the keynote address of the Conference delivered by Dr. Donald D. Durrell, of Boston University. Dr. Durrell's inimitable style and fine sense of humor together with thought-provoking comments on teaching reading today set a wholesome atmosphere for the entire Conference. Part II—Meeting the Challenge in Today's Reading Instruction contains thirty papers which expand the theme set by Dr. Durrell. Part III—Experiment and Research in the Teaching of Reading contains twenty-one research studies in the field of reading. Many of these studies are well done and should do much to point correct procedures to teachers and others interested in the teaching of reading. Part IV—Evaluation of Reading Instruction in American Schools contains the comprehensive and masterly review of this topic by Dr. Nila Banton Smith and nine other evaluations of various phases of teaching reading. Part V—Special Interest Institutes contains eleven papers presented during the Thursday discussions, which precede the annual Conference.

The number of paid registrations for the Conference was 3,040. Complimentary registrations increased the total to 3,451. Nearly 1,200 persons attended the luncheon and heard Doris Gates talk on writing books for children. One of the highlights of this hour was the presentation by Dr. William D. Sheldon, president of the International Reading Association, of special citations to Dr. Ruth Strang and to Dr. James M. McCallister.

The tremendous growth of both the Association and the Conference is shown by the increase in the number of members and subscribers. As of April 1, the number of members was 15,449 and the number of subscribers to *The Reading Teacher* was 6,147, making a total of 21,596. Ontario, California, Illinois, New York and Pennsylvania have the largest enrollments. Of special interest is the fact that Australia has 137 members and 15 subscribers. Outside of the United States and Canada there are members in twenty-six countries, truly an international flavor.

The San Francisco hosts were wonderful. They conducted the Conference in the true spirit of Western hospitality and in the true spirit of a great host. To all who contributed so generously to the success of the Conference the program committee and the officers of the Association express grateful appreciation.

Neither this introduction nor the papers presented can transmit to you the spirit and enthusiasm of this world-wide group of reading teachers. If the report can give you an insight into the topics presented and discussed, it will have served its purpose.

J. ALLEN FIGUREL, *Editor*

The ideas on the teaching of reading expressed in these papers are strictly those of the authors listed and do not necessarily represent the official viewpoints of the International Reading Association.

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PART I

Challenge and Experiment in Teaching Reading

Donald D. Durrell

A LONG career in a single field permits one to see marked evidence of progress. My interest in reading instruction began in 1925 when Dr. Orton invited me to be the psychometrist on a mental hygiene clinic, traveling about Iowa to examine children with reading difficulties. These were the good old days when schools maintained standards but not children. If a child made slow progress in learning to read, he was given a three-year sentence to grade one and two-year terms in later grades. There were no children with reading disabilities in schools after the sixth grade; they had been swept out of school with the bottom fifty per cent. Each primary grade had a large group of children, presumed to be dull, waiting until they reached school-leaving age. The teacher offered the opportunity to learn: if the child failed to learn, it was not the responsibility of the school.

Then came the great depression of the 1930's, begun by Hoover and prolonged so ably by Roosevelt. Children and married women were no longer welcome as wage earners. Legal working ages were moved up. There was no place for the child to go, so he was stored in schools until age sixteen. We couldn't keep all these overgrown children in primary grades, so we invented "social promotion," which means "if alive in September, promote." For the first time in our history, we were expected to teach children in the bottom half of the intelligence range, and were held accountable for their failure. Our task was to accept all of these dullards and still maintain the average achievements of the grade. One of the modern miracles of education is that we have learned how to do this seemingly impossible task.

Let us take, as a shining example, the two hundred first-graders in the town of Lynnfield, Massachusetts, last year. There, under the excellent leadership of Nancy Santeusanio, these first graders reached an average achievement of 3.2 on June Metropolitan Reading Tests. Ninety-two per cent were reading above second grade norms—192 of the two hundred children. There were no children reading at primer level—no reading disability cases. This is not a town of geniuses: the average I.Q. is 106, there are no public school kindergartens, and children are admitted to first grade at five years nine months. There is no sale in this town for *Tomorrow's Illiterates* or other books of alarm about the future of America's children.

While Lynnfield admittedly *is* a shining example, it illustrates what may be done when children are well served in reading instruction. Many other towns throughout the country have discovered that excellent beginning instruction virtually eliminates the need for remedial reading in primary grades. It is an interesting fact that publishers of standard tests now receive constant complaints that the norms are too easy and that local norms are used to hold down the above-average achievers. Now that reading tests must be restandardized to meet the new high achievements, we may take pride in our progress. And this has been accomplished with *all* children in school, not just the top half as in the "good old days."

We must admit at once, however, that not every teacher nor every community uses all of the power of modern knowledge about learning to read. We still have with us the teacher who merely "offers the opportunity" but has no idea of ways to adjust instruction to assure learning. We still have uniform instruction, regardless of differences in levels of ability, of progress rates, or of special weaknesses in subskills of reading. We still have bright pupils who are held back by a meager intellectual diet, and some others—both bright and dull—who are confused and discouraged, with no hope of better service in their immediate future. We have teachers who cannot recognize the most obvious faulty habits and difficulties in learning, and have no knowledge of how to correct these difficulties. Looking at such teachers, one wonders if we really have made progress.

Improving the Art of Teaching in Classrooms

It is my premise that the great challenge that confronts us as teachers of reading is the improvement of classroom practice in the light of current knowledge. No field of education has benefited more by research than has reading. While there are still large unexplored areas and questions for which we have no clear answers, we know enough to offer a far higher quality of service than we do at present. This is demonstrated by the remarkable effectiveness of good clinic instruction or skilled remedial teaching. It is normal in such instruction to produce a year's gain in reading achievement every two months, or four years' gain in a year. There is no great mystery about the process; it consists of lessons closely fitted to the child's learning needs, directed toward correction of weaknesses, employing a wide variety of motivations, and using every minute effectively. The clinic practices obviously produce results of a startlingly effective nature. The problem is to provide equally efficient instruction in classrooms.

But how are such precise adjustments to individual needs to be provided in the regular classroom, with twenty-five to thirty or more pupils? The task is not easy. With our present instructional materials and our present teacher education, it is very easy for a teacher to offer uniform instruction, disregarding variations in the learning needs of pupils. I see only two ways to accomplish the task: *first,* the improvement of teacher education, both in-service and pre-service; *second,* the production of new instructional materials which will make it easier to differentiate instruction in classrooms.

Some school systems attempt to improve their services to pupils through administrative reorganization. We see the current popularity of teacher-team schools, with "teacher specialists" and "redeployment of pupils"—nicer terms for departmentalization and ability grouping of pupils. The terms, "continuous progress programs" and "nongraded elementary schools" have great appeal, but the changing of labels does not assure improvement of the actual services to pupils. Although I would encourage the search for improved organizational approaches, the results of such changes are not yet especially impressive. One usually finds as much insensitive uniform instruction in these schools as in the self-contained classrooms. Indeed, in some of the departmentalized and ability grouped schools, the very grouping tends to invite uniform instruction.

Curriculum change is a second attractive approach to improving school service. "Let's revise the curriculum" seems to be the first and only thought in the minds of many administrators and supervisors. A new course of study is produced by a committee, but the expected miracle does not appear. Changing the curriculum has never made much difference in the achievements of pupils. Almost any curriculum is sufficiently flexible in the hands of a skilled teacher to provide for variations in breadth and depth needed by pupils. The need is not so much for improved curricula as it is for the improvement in the art of teaching with the current curricula. If a child is poorly served in the presentation of one curriculum, he is likely to be equally poorly served in the presentation of the next one. Again, we should encourage curriculum improvement, but we should expect to find little improvement in child achievement unless the teaching practices in the classroom are changed.

We cannot evade the fact that it is what the teacher *does* in differentiation and enrichment of instruction that makes the difference in classroom achievements. Our best hope of improving teacher service to pupils is through giving him the professional skills and the teaching tools that lead to effective learning.

Identifying the Professional Skills of the Teacher

If we are to improve teacher education, we must identify the essential skills of superior teaching. They must be so clear and of such a nature that we can observe them reliably in the classroom. I deplore the personality cult in teaching, typified by the statement that "teachers are born, not made." If this is true, neither schools of education nor supervisors have any reason for existence. Another belief that erases the need for teacher education is, "you can't rate teacher excellence." If we can't tell good teachers from poor ones, how are we to develop good ones? I sympathize with teacher resistance to "merit ratings," since few items on these scales have anything to do with professional skills. But I submit that we can tell good teachers from poor ones, that we can identify the services that make for efficient and effective teaching, and we can transmit professional knowledge effectively. Unless we can do this, there is no point to teacher education.

The primary purpose of the teacher's presence in the classroom is to increase the amount and quality of learning per hour. How is this done by superior teachers? We have developed a scale of teacher service to pupils which attends only to what the teacher *does* to improve the efficiency and effectiveness of learning. Thus far, it has been used only with intermediate grade teachers in self-contained classrooms, rating services to pupils in reading, spelling, language arts, arithmetic, and social studies. It is a standard interview, used with teachers in their classrooms when the children are not present. The interview begins with a statement to relieve the teacher's fears: it suggests that differences in the learning needs of pupils are very complex and that nobody knows how to care for them for sure; that publishers still produce a single text for all children, and that uniform instruction has a wide acceptance; that this interview is to discover ways which the teacher had found to enrich instruction for pupils, and that the interviews will be followed by a program to exchange useful techniques.

The scale is a relatively simple one. In each subject area there are five points of inquiry:

—Provision for different levels of pupil ability in each subject.

—Provision for different progress rates.

—Provision for weaknesses in component abilities in each subject.

—Enrichment of instruction, to make it important and useful.

—Provision for initiative and self-direction in learning.

The teacher's service in each of these areas in each subject are drawn out by questions; first by general questions, then, if necessary, by highly detailed questions. The specific questions have been revised many times to bring out clearly the amount and type of service given. Since the interview is in the classroom, specific materials and records may be shown by the teacher to illustrate what has been done. It is very difficult to evade or bluff this interview.

Each of the factors is rated on a scale of one to four: uniform textbook instruction is rated as *1;* incidental, minor, or occasional variations are rated as *2;* systematic programs for partial service are rated as *3;* major provisions, with few areas for improvement, are rated as *4*. Since each of the five subjects has a possible rating of *20*, the maximum possible score is *100*. We have found the scale highly reliable in the hands of supervisors who are acquainted with programs of effective differentiation and enrichment of instruction and who are trained in the use of the standard interview. When fifty teachers were rated in separate interviews, given a week apart by different supervisors, the reliability of the scale was found to be .90. The average difference between total ratings was four, the largest difference of two ratings of a single teacher was fourteen.

We were pleased that the teachers accepted the interviews willingly and were anxious for help to improve their teaching. They needed help. The average rating of the fifty teachers in 1958 was *thirty*, just barely above uniform instruction and routine mass education. After a year of highly effective help from Walter McHugh and John Manning, working daily with teachers in classrooms, the average rating was *sixty-six* — approaching the *"3"* level of effective service in the separate factors. This was still far from perfect, but it represented a marked improvement within the year. One interesting result was that two "bottom quarter" teachers in 1958 had so improved their teaching that they rated in the "top quarter" in 1959.

It should be noted that this scale dealt with teacher practices in differentiating and enriching instruction, not teacher personality and attitudes. It identified particular tasks for improvement; it provided specific analyses of problems common to the group of teachers and directed attention to the need for improvement of professional abilities. But most important, it shows that specific professional skills of classroom teaching can be identified, evaluated, and improved.

Taking the scale as a starting point, I suggest that the professional skills of the teacher may be divided into two main areas: *the differentiation of instruction* and *the enrichment of instruction.* In the design of a laboratory course in elementary supervision, we center on the following topics under these two headings:

Differentiation of Instruction

- —Provision for different levels of subject ability.
- —Provision for different progress rates in skills learning.
- —Intensive instruction in subskill difficulties.

Enrichment of Instruction

- —Assuring understandings: of facts, concepts, principles.
- —Integrating learning into thinking and action.
- —Developing initiative and independence in learning.
- —Assuring growth in personal-social abilities through learning.

For me, this is the list of the unique professional abilities of the skilled teacher. They are the ones toward which I would direct in-service and pre-service education; they indicate the needs for improved instructional tools, and are the most important areas for educational research.

Laboratory Approaches to Professional Skills

There have been so many vicious attacks on teacher education that it is hazardous to criticize it lest one be listed as a fellow-traveler in undesirable company. However, I believe that we are highly vulnerable in current practices in teacher education and that radical changes are needed.

Those fifty teachers who at first rated so poorly in service to the learning needs of pupils were all products of teacher education institutions, many of them from my own university. Mary Austin, in *Tomorrow's Teachers of Reading,* reports that eighty-four per cent of the responding institutions were distressed with the quality of practice teaching experiences of their students. Since all of us select critic teachers from the best neighboring school systems, if we find fault with them, there is only one place to assign the difficulty: the failure of the colleges to produce the desired professional abilities. The teachers in the regions we serve are usually our own products, working under principals and supervisors who are also our graduates. Why don't we get better results from teacher education?

The first fatal weakness of professional education is a preoccupation with verbalism, apparently in the belief that the highly complex abilities of teaching can be imparted through lectures and discussions. How many of our courses offer the student accompanying responsible experiences in the practice of professional skills? Certainly not the misnamed "foundations" areas of history, philosophy, psychology, sociology, principles, and child development. Nor is a laboratory experience attached to most courses in specific methods, the courses through which the theory and principles must function. The student listens, reads, discusses, and writes papers on various assigned tasks; he never sees his professor working with public school pupils, applying the principles about which he talks. When the student is finally turned over to practice teaching, he imitates the practices of his critic teacher, who, unfortunately, often knows little of the art of differentiation and enrichment of instruction. He learns to practice the very antithesis of what he has been taught in his professional courses, sometimes acquiring a contempt for them. This is illustrated by a survey of California secondary teachers done a few years ago: ninety-eight per cent had an aversion to taking more professional education courses.

In our verbal approach to professional education, we closely resemble medical education at Harvard in the 1870's. The student attended lectures in nine medical subjects for two thirteen-week winter terms. He never saw his professors as they diagnosed illnesses and served their patients. There was an indefinite requirement of "study" with a practitioner not connected with the school. But the college offering was all verbal, and criticisms of medical practitioners in those days were severe, reminiscent of the current situation in education. Professor Bigelow, who, with Oliver Wendell Holmes, shared the highest reputation on the medical faculty, maintained that "physicians are born, not trained." He was violently opposed to change in the medical school offerings. One of the most significant changes in medical education was introduced by William Osler, who desired for his epitaph: "Here lies the man who admitted students to the wards." In an address on "Need for Radical Reform in Teaching Medical Students," he said: "The student begins with the patient, continues his studies with the patient, and ends his studies with the patient, using books and lectures as a means to a practical end. It is a safe rule to have no teaching without a patient for a text."

The teacher education school of the future will be largely school centered, rather than college centered. It will begin with children's classrooms, continue with these classrooms, and end with these classrooms, using books and lectures as a means to a practical end. In such a school, the student will see the professor at work applying his principles to the teaching of children in the schools. Principles of learning, child development, special methods courses, and all courses directed toward professional skills will be taught through work with children, not through college courses detached from public school classrooms. Professional courses which cannot stand the test of relation to school classrooms, sharing with students the practice of translating principles into action, will be difficult to justify in the teacher education program.

The professional school of the future will be closely attached to the schools in the region served. A single "demonstration school" is helpful, but is immediately discounted as a favored situation, detached from the practical problems of public schools. We will need to have many public schools, with different socio-economic levels, different administrative organizations, different approaches, with all of the social and political forces operating. The first responsibility of the college faculty will be to estabish these centers, where there is an active search for ways to differentiate and enrich instruction. Most of the teaching of professional skills will be done in these schools, rather than on the college campus. This will not be the "training of technicians," unless the professors themselves are technicians rather than scholars. The application of educational principles permits wide variations in the art and practice of teaching; there is little place in professional education for the advocates of panaceas or single approaches.

What we teach at present is essentially sound; the difficulty is that nobody uses it. Nor will they, until we learn to use laboratory approaches in which the student practices his art under the direction of his professor.

We have made some beginnings in laboratory approaches to professional education. The reading clinic is probably the best example. Here the professor and the students work together daily in the analysis and correction of children's reading difficulties. In our own clinic, fifteen experienced teachers work with Dr. Helen Murphy four mornings a week throughout the school year. Since they are preparing to become reading supervisors, the last two months of the year are spent in a public school system in practice supervision, where they improve reading services to pupils through assisting classroom teachers. There is no question of the competence of such graduates; they have been observed at work in the actual situation in which they will serve later. Nor does the method produce blind technicians, since each student is acquainted with the research scholarship which emphasizes weaknesses in our current knowledge and indicates the need for continued search. Incidentally, one never finds graduates of reading clinics who deplore the quality of such professional education.

Our reading clinic also serves as a laboratory for the undergraduate reading methods course, with 200 juniors being given five weeks of practice tutoring. We get half of the juniors the first semester, half the second. In the tutoring practice, the juniors are divided into teams of four, each team being responsible for the tutoring of one child, under the direction of a clinic member. This is practice teaching in two directions: practice supervision for the clinic members, and practice tutoring for the juniors. Twenty-five children come on Tuesday and Thursday mornings, with one junior tutoring from nine to ten-thirty, another from ten-thirty to twelve. On Thursday morning, two more juniors take over. There is no difficulty in finding children; one merely selects a school system near-by and offers the service. The children come in by buses, taxis, and car pools. Since one "reading block" of five weeks ends the first semester, and another begins the second, the children get ten weeks of tutoring—but with four new juniors during the second five weeks.

It is easy to imagine the host of objections from my child-development friends in this audience. All these personalities inflicted on one child? Horrible! Let me assure you that the children thrive on it and look forward to the variety of instructors. We find no tangled personalities arising from this practice. Instead, we find the usual improvement in posture, conduct, and well-being that always arises when children are successful in learning.

True, this is a meager amount of laboratory experience and is a far cry from classroom teaching. The student tutors only one child, with one type of difficulty, one level of reading ability. A better service would be to provide tutoring on several levels, then teaching children in small groups, and finally the differentiation and enrichment of reading instruction in the full classroom—all under the direction of the professor. One thing can be said for practice tutoring, however: the student learns the power of close adjustment of instruction to the needs of children. Without such experience, the teacher will not understand the nature of the component abilities in his subject and will be as confused about learning difficulties as the average layman — or psychologist — who ascribes such difficulties to wilful inattention, poor home discipline, faulty self-concepts, undesirable peer-group attitudes, or too severe toilet training! Professional education might well begin with practice tutoring.

Another beginning approach to laboratory teaching is our supervision laboratory course, designed for supervisors and supervising principals. These people come for four hours each Saturday morning and also leave their jobs for two separate weeks of practice supervision. The course employs two professors for the dozen students who enroll. The first year of the course, Dr. Crossley and I assumed that the supervisors knew how to differentiate and enrich instruction, needing only practice in assisting teachers. Each of us took on the task of supervising one teacher for a week. By Wednesday of that week, we found that the supervisors were making no changes: they didn't know how to help teachers improve service to pupils. And all of these people held at least a master's degree in education from our school! Since that first year, we have begun with a week of "practice demonstration teaching," in which two supervisors replace one teacher for the week in a distant school. During the second week, we go to another school system and put a pair of supervisors in each elementary school to see what improvements in instruction they can initiate in one week. The host school system orders demonstrations in advance from our repertoire of educational miracles, suggesting the subject and grade levels desired. This is hard work for both professors and students; they are at work most of the twenty-four hours of each day.

Does this course result in marked improvement of teaching practices of the schools of the supervisors and principals? Unfortunately, we have found that although these people can make major improvements in other schools, they are far less effective in their own. They move into their own classrooms rather timidly, and often cannot find a day to begin. They explain their "away from home" success by the fact that the host teachers are ready for change, the doors to change being opened by the professors. They say quite frankly that they need a professor as catalyst and scapegoat. Obviously, we must search for ways to help them transfer supervisory skills to their own schools.

We have also tried extension courses in which only teams of principals with teachers may enroll. Individual enrollments are not accepted. This course is our "laboratory in team learning," in which pupil team learning techniques are emphasized. The professor demonstrates pupil team progress methods in arithmetic at the first meeting. During the following two weeks, teachers and principals are required to initiate these methods in arithmetic in their own classrooms. They have a wide choice of approaches, but they may not continue uniform instruction. At the next meeting, team progress methods in spelling are demonstrated, following which teachers initiate such methods in their classrooms while maintaining the new procedures in arithmetic. A new subject is demonstrated every two weeks. Two professors serve this course, demonstrating at both primary and intermediate levels. In thirty years of extension teaching, I find this the most effective course of my career.

These personal experiences are cited, not to show that we have solved the problem of teacher education, but to indicate possibilities in a laboratory approach. Of the three hundred courses offered in the various departments of our school of education, less than a dozen offer supervised experiences for students; except for clinics, none offers daily work under the immediate direction of the professor. Some include visits to schools, some require work in community centers, but there are none in which professor and student share the practical problem of translating principles into the daily work of classroom teaching.

The professor of education of the future must be the best practitioner of the art of teaching in public school classrooms. All of the findings of research, all of the theories and principles which should be functioning in planning and teaching, will be transmitted inductively through professor-student cooperative ventures. If our present professors cannot give this service, their successors must.

It is distressing to see how often we violate our own principles in teacher education. There is more uniform instruction in colleges than in schools, despite the fact that the same needs for differentiation and enrichment of instruction are present. It might be well for us to "program" some of our courses to permit individual or team progress in learning. It may be that we will need a number of different types of courses, some verbal, some practical. The verbal courses should experiment with case methods, problem methods, and project experiences closely related to school teaching. The verbal activity in such courses should be by the students, more than by the professor. Professional skills offerings, however, are the areas in which educational scholarship must function, and these must be tied closely to classroom practice. We will sometime graduate our students on certification of competence as judged by analysis of their teaching abilities, rather than by the number of courses taken.

In-service education constitutes another great challenge to our profession. What happens in undergraduate programs at colleges will affect schools only gradually, if at all. The professional life of the teacher—particularly of the young woman —is so short that one often wonders, "Why bother?" The teacher shortage has been solved by recruiting teachers from the ranks of local mothers and grandmothers. These people cannot leave their families for campus work, except for an occasional ten-day "workshop." Nor can colleges supply a sufficient number of extension courses to provide the in-service education. The college might do well to extend its service by inviting master teachers to assist in giving courses—of the laboratory type, not the verbal type. Perhaps school systems should combine to exchange master teachers for this purpose; perhaps supervisors and principals from different communities might work out a system to exchange positions, if it is true that they are more effective away from home. Certainly, all of us need to cooperate in finding new ways to stimulate and improve in-service education. Perhaps we can decentralize the colleges during the summers to offer both academic and professional courses in smaller community centers. My feeling is that there is greater potential in in-service education than in pre-service practices. I am not one who shares the enthusiasm evidenced in some quarters for five-year pre-service programs, unless the professional education offering changes from verbal to laboratory.

Improving Instructional Materials

The greatest hope for immediate improvement in classroom instruction is the development of better tools for teaching. Materials which are suited to the varying needs of children, especially those that are self-directing and self-correcting, are urgently needed. The textbook was never intended for this purpose; it is a tool designed for the good old days of mass education. Consider the elements of service to pupils mentioned in the list of the professional skills of the teacher: provision for different levels, for different progress rates, for subskills weaknesses, for assurance of meaning behind facts and concepts, for integrating knowledge into thinking and action, for the development of initiative in learning, and for attaining the personal and social abilities among pupils. How well can these objectives be served by a textbook? The author of a basal reading series can provide an orderly sequence of developmental skills, but the children do not develop these skills in an orderly matching pattern. Immediately, we find a spread of abilities, a need for different amounts of practice, unequal progress in the many subskills of reading. We know that ability grouping by general reading level will not be satisfactory, since top quarter pupils in general ability will be in the bottom quarter in component abilities. About all that a textbook can do is to provide a course of study, listing the facts and skills to be learned. The textbook has served and will continue to serve many useful purposes, but many other tools are needed to make the adjustments necessary for effective classroom learning.

How about the new gospel of "individualized reading," in which every child is in a separate book? It has its values, as every teacher knows. One cannot avoid using individualized reading unless children are barred from books. But in its former incarnation as the true gospel in the 1930's, individualized reading proved no panacea. Children with reading difficulties flocked to clinics then as now. For the superior reader, extensive individual reading produces fine results, but for the child with reading difficulty, systematic intensive instruction is needed.

Is television teaching the answer to educational needs? Of all of the mass instructional techniques, television seems to me to be the least promising. A *book* can be selected to fit the child and used at the time desired. But television requires all noses turned toward Mecca at a particular instant. Even motion pictures allow some variation in selection and classroom timing. Television seems to be merely a variation of the lecture method, suitable for enrichment or initial presentation of content learnings. Its use in the teaching of skills, where there are wide individual differences, is most limited. The most astounding misuse of television I have seen was a phonics program for fifth-graders: five thousand of them were taught *run - runner* and *knit - knitter* through a fifteen-minute film, adding up to more than a thousand pupil-hours of waste time. Television is not for skills learning, unless there is a separate set for every pair of pupils, with push buttons to call up the particular lesson needed, and a sympathetic listening attachment with a corrector and praise and caution dispenser. Most mass techniques have some possibilities in enriching the intake of ideas, but in directing their use in thinking and action, a teacher seems to be needed.

Will the teaching machine or the programed textbook have a place in differentiated and enriched instruction? There are excellent possibilities in programed learning, but present programs seem to emphasize only provision for individual progress rates. Branching, the adapting of instruction to errors made, offers some possibilities for assisting subskills weaknesses. But no single program can possibly fit all pupils; there must be variations in densities of programs, and special systematic presentation of subskills lessons. Present programs seem narrow in intellectual scope, such as the acquiring of a technical vocabulary or the practice of simple skills. While we may dispense with the hardware approach, programed learning has a high potential, if master teachers rather than round-eyed psychologists design the programs. It hasn't yet occurred to the programers to develop programs for teams of learners, so that the advantages of mutual aid in learning may be employed. This is not surprising from the *rat-and-pigeon* psychologist; his subjects are rather awkward in conversation. But there is no reason to deny the opportunities of team approaches to learning to human beings who are somewhat more facile in exchanging experiences.

A rich area for the improvement of instruction is found in the development of sequential learning "packages" which are self-directing and self-correcting. The SRA reading laboratories are typical of such packages, reminiscent of the Winnetka materials of the 1930's. One may quarrel with such packages since they provide the same diet for all, regardless of nutritional need; but they at least allow for different levels and progress rates. Packages can easily be worked out to provide intensive practice in various subskills in different subjects. It would take no great ingenuity to develop such packages for phonics on different levels, for improvement of attention and recall in reading, for outlining, for elaborative thinking after reading, for skimming, and for any of the many skills listed in basal readers and workbooks. However, we should add to such packages the possibilities of pupil team use, since we are constantly finding abilities which are learned more effectively with partners or teams of three than by solo work. This is especially true when one moves from rote learning to intellectual learning in which application of principles, or relation of new knowledge to previous mental content is involved. We have done some exploratory packages in team learning in various components of composition: improving the flow of ideas, organization and subordination of ideas, sentence variety, vocabulary enrichment and precision, as well as the areas of mechanics of writing. We have even tried some self-directing packages for pupil teams in elaborative thinking, solving the self-scoring problem by answer sheets based upon the thinking of previous groups of children on the same tasks.

It is relatively easy to adapt textbooks in spelling and arithmetic to team progress methods. This was done by the Winnetka schools forty years ago. It is surprising that our profession did not follow that excellent lead more closely. Apparently the monumental machine of uniform instruction does not change from its glacier-like movement easily. Even today, publishers are reluctant to attempt to turn it into more effective paths; they cling to the textbook because of school demand, and schools cling to uniform instruction because of the textbook. Both schools and publishers would like to break the cycle, and it is high time we gave them some encouragement whenever possible.

We have not yet really explored the possibilities of mechanical devices as an aid to education. The possibilities of the tape recorder have hardly been touched, except for their recent introduction into language laboratories. The motion picture projector, either sound or silent, deserves greater attention as a teaching aid, especially in skills learning where almost no exploration has been made. Its chief use at present is to add a little embroidery to the educational garment. Film slides, accompanied by text or sound, can be readily adapted to skills learning needs. The teaching machines, crude as they are at present, offer interesting possibilities, especially if we can introduce higher intellectual processes and pupil team use.

Of course, it is not the hardware, but the quality of the programs that is important. In the design of learning packages, the author must have a clear knowledge of the nature of the ability to be taught and must utilize the products of research to multiply the effectiveness of each lesson. Seldom does any lesson involve a single intellectual principle; mental behavior is usually a multiple-variable activity, and a knowledge of how the many variables operate is essential for building the highest quality of lesson. It is here that educational research must function. For example, the design of lessons in beginning word analysis might teach *in the same lesson* the ability to perceive separate sounds in spoken words, the relation of these phonemes to letters, using whole word presentation, attaching meaning and imagery to the words, and using context clues, with all of these factors reinforcing the learning. The very same lessons might employ discovery methods, every-pupil-response, immediate knowledge of success, and all language arts media — listening, speaking, reading, and writing. The omission of any of these factors would diminish the efficiency of the materials. The development of effective lessons requires much more than the knowledge of the anatomy of verbal symbols, which seems to be the main approach of our *linguistics* friends. I find no new educational horizons in the field of linguistics, despite the awe in which the word is held by people who seem not to have read in the field.

The *enrichment of learning* through expanding and clarifying concepts, through integrating facts and concepts into thinking and action, and through development of social and personal qualities while learning, rests more upon teacher management of the intellectual activities of the pupil than upon self-directing packages. The book is still an excellent "machine" for enriching learning, especially if many books of different levels and approaches are available on the same topic. Some few teachers have acquired the art of using library resources for enriching learning; still others might develop the art if adequate school libraries were available to them. Unit teaching, with wide use of resource materials, has great power for the enrichment of learning; but how often is it used in classrooms despite its ubiquity in colleges courses in education? The development of boxes of pamphlets on special topics or concepts makes for easier administration of unit teaching. Some teachers find that the use of curriculum-related specialties is an effective way of adding depth and breadth to content subjects.

Not all learning in the schools of the future will be done by individuals or teams pursuing independent study. Effective learning may still be done through whole classes or even combination of classes; especially when new materials are presented through multisensory approaches. There will be a place for motion pictures, television, field trips, illustrated reports, demonstrations, displays, recordings, dramatizations, and the use of community resources. There will be large group activities which permit individual or group participation: choral singing, choral reading, orchestra, sports, projects, instructional games. Most mass presentations of new materials will be followed or preceded by team reactions to the materials being learned, to assure assimilation into the minds of the children. There will also be a place for ability grouping, when common instructional needs are evident; but here we will develop every-pupil-response or team-response technique to avoid the wasteful taking of turns while others wait. And certainly there will still be individual study, the writing of essays and reports, pursuing independent investigations in different aspects of scholarship, and the taking of examinations for the analysis and evaluation of achievement. We will need to investigate many aspects of the problem of effective group size in relation to the attainment of educational objectives.

We have long since passed the point in which evangelists for a single approach to learning have a place in the educational fraternity. There is no "one best way"— no single approach which fits all types of learning, all pupils, all educational objectives. Instead of taking sides on each new proposal—which are often really old proposals—we must inquire where it fits and how it may be modified for better educational service. It is no longer appropriate to be "for or against" phonics, basal readers, workbooks, flash cards, individualized reading, television, teaching machines, teacher-team schools, departmentalization, ability grouping, the Joplin Plan, teacher-team organizations, nongraded schools, the Newcastle reading experiment, or the jet-propelled reading speed programs. Each of these may represent some potential service when it is suitably used in the educational scene. There is one fixed idea upon which we may all insist: opposition to regimentation and standardization on the basis of our current ignorance. It is too early to close the search for better schools.

PART II

Meeting the Challenge in Today's Reading Instruction

1. Reading Instruction and the Five-Year-Old Child

DOLORES DURKIN

IN the late 1930's, through the forties and into the fifties, a pedagogical cry often heard was one that asked: Is the young child ready for school? Today, the more fashionable and, in many instances, the more appropriate question to raise is whether the school is ready for the young child. The focus of concern has thus shifted, even though the general topic is still that of *readiness*.

To be sure, a variety of factors account for this shift. Heading the list is an awareness that this young child is not what he used to be; that as his world has changed and advanced, so too has he. Within this framework, then, there is emerging a kind of reaction against the old readiness emphasis which generally took the form of postponement of reading instruction. Such a one-sided interpretation naturally makes for discomfort when some of the children participating in reading readiness programs are found to be already reading.

For all of the children not yet reading, a current focus for questions centers on the content of these reading readiness programs; for, over time, it has become narrow, highly unimaginative, and even workbook-centered. In a few instances, in fact, the reading readiness workbook *is* the reading readiness program.

To account for this current wave of question-asking only in terms of the school's use of the readiness concept would be shortsighted. What cannot be overlooked, certainly, is the very temper of the times in which we live. Educationally, we are living through an era that places new demands upon the school, many of which could be characterized by the cry of, "Let's have more, and let's have it sooner." In some instances the new expectation is more specifically phrased as, "Let's have better reading and, too, let's have it sooner."

For many different reasons, therefore, this question of reading and the five-year-old child has been dragged into the arena for discussion. I say "dragged" because of my own frequent encounter with professional educators who seem to prefer to ignore it; who, by playing ostrich now, apparently assume that in time the whole matter will die a natural death.

I feel quite different. I proceed on the assumption that the matter of reading and how it might relate to children younger than six will not and *should* not be silently ignored; that if professional educators do not take the lead in giving it both careful and imaginative thought, the nonprofessionals will step in, map out the directions, and make the decisions.

Early Reading Research

Since the fall of 1958 when I began a longitudinal study of children who could read when they entered first grade, I have had the opportunity to talk with large numbers of teachers and parents of young children, and with the children themselves. During this time I have become more keenly aware of the child's pre-school world; of the quandaries parents face in raising these children; and of the problems of the school as it attempts to do a good job, sometimes with ineffective teachers and often with either indifferent or, at the other extreme, too eager parents. Today, I would like to review some of the observations, some of the findings and feelings that are mine as a result of doing this research.

The first comments I would like to make are about the children who do come to first grade already reading. The commonly accepted but erroneous ideas about them were summarized not too long ago by a person who introduced me to a group for whom I had prepared a talk. As it developed, his introduction alluded to the great intellectual precociousness of these pre-school readers, to the way in which they must have been pressured into early reading by overzealous and often insecure parents, and to the plea that we, as educators, counteract this kind of cruelty to children. I am sure that audience felt "let down" as I began to describe the early readers in my research for I had to say that not all are particularly bright; that, in fact, one-third had Binet IQ's of 110 or less. In addition, I had to mention that in most instances there were no indications of unhealthy parental pressures; that, in fact, most of these early readers had simply responded to their word-filled world, had repeatedly asked questions about it; and had had their questions answered by parents, sometimes by siblings, who were patient, interested and, in a few instances, eager. What I also had to point out was that the start of pre-school reading ability is often made a generation before the child is born. Most early readers are the children of people who themselves are avid readers who respect "book learning."

On the occasion of that particular talk I did not have the opportunity to report other observations I have made in carrying on parent interviews. I would like to do that now. Most of all, I should like to describe what I see as two opposing forces impinging upon parents of pre-school children.

The first set of forces or, to use more palatable language, "the first line of communication" comes from the school. Briefly, its message is to warn these parents not to teach pre-school children to read on the assumption that what a child learns about reading before he gets to school interferes with subsequent school instruction. I have no idea how this rumor got started. I can only report that in interviews, and in letters, parents frequently refer to it.

Another, and a very different kind of message is one that comes from the press and from the publisher. In newspapers and in magazines, for example, parents read about the Denver schools as they attempt to develop TV programs on reading—and these are for parents of pre-school children, about Professor Omar Moore, at Yale University, who is using complicated machinery to introduce pre-first grade children to written language; and about the Whitby School in Connecticut as it demonstrates the learnings of three-and four-year-olds when a Montessori curriculum is followed.

Side by side with these optimistic reports comes the warning, usually from advertisements and books, that the schools are not teaching reading with any measurable success; that parents, therefore, had better "take over," preferably before their children even get to first grade. Thus, to be a parent today—in particular, to be a literate parent—is to be surrounded by claims, counter-claims, warnings, pressures and, most of all, by very little peace. But, to be a kindergarten teacher today is almost to be in the same predicament. Here, one way of describing the scene would be to describe the three groupings into which kindergarten teachers tend to divide.

One group seems to feel the need to defend the kindergarten program as it generally exists today. With this group the emphasis is on the value of play, on the need for social learnings and adjustments; in a sense, on the "youngness" of young children. This group would tend to see the entrance of reading into the kindergarten as the inevitable entrance of a formal, highly structured program that would be inappropriate for five-year-olds. To some extent, I think, this group has the support of many professional educators.

The second group of kindergarten teachers is of a very different variety. This group seems too ready to bow to certain pressures—and these would include the pressure of Harvard-conscious parents who seriously believe three years of age is none too soon to develop good study habits, and at least a small amount of achievement in reading. Unfortunately, this second group of kindergarten teachers shows an inclination to move toward a workbook curriculum even though we all know good readiness and good reading programs cannot be purchased.

The third group of kindergarten teachers represents, at least for me, hope on the horizon. This group does not interpret the asking of questions about kindergarten as a prelude to criticism. It recognizes the inadequacy of typical kindergarten programs for some five-year-olds. This is the group that steers clear of a sentimental attitude toward young children, but at the same time is warmly appreciative of the wonderful curiosity, eagerness, and intellectual potential of five-year-olds. This group, more than the other two, seems less hidebound by tradition and, therefore, is more willing and able to step outside the current conception of kindergarten to see what else is possible, and possibly better. In a sense, it is to this group that I direct my comments regarding "Reading Instruction and the Five-Year-Old Child." Since these comments will be made within a context of certain assumptions about kindergarten and kindergarten children, it might be best to begin by making the assumptions explicit.

My first assumption is that kindergarten teachers, without neglecting the intellectual development of young children, do need to give special attention to the areas of social and emotional development. For many five-year-olds kindergarten is their first school experience and, like all "firsts," it is often accompanied by problems of adjustment. Due recognition of this, however, should not put social development and intellectual development into two discrete and distinctly separate categories. Neither kind of development is fostered in a vacuum. Both can advance concurrently and, in fact, both ought to be seen as nourishing each other.

That skill in reading is part of the foundation for intellectual growth is a second assumption. Either to prepare for it, or even to initiate it, therefore, is an important responsibility of the kindergarten. It is further assumed that insufficient attention to this responsibility is one of the factors that has led to a kind of alienation of kindergarten from the elementary school. The need to make it a more integral and continuous part of the rest of the school program becomes increasingly apparent and important.

My third assumption is more directly concerned with kindergarten children. It is a kind of reminder that these children enter school often sharing with one another only their chronological ages; variation usually prevails in current interests, past experiences, and innate abilities. As a result of these differences no single pattern of procedures will be appropriate for all kindergarten children just as, later on, no single level of accomplishment is to be expected of all. These comments apply to each aspect of a child's development, including his possible development in the area of reading.

The fourth and last assumption is that kindergarten programs will be good programs to the extent that they neither frustrate nor bore five-year-olds. Ideally, then, these programs should proceed in a way that stimulates the most able child without undermining the least able in the group.

"Exposure Curriculum"

It might now be asked: How can this particular principle be applied to reading at the kindergarten level? One possible way is through what might be called an "exposure curriculum." Permit me to elaborate on what I mean because it is this that I recommend as one appropriate way to teach reading in the kindergarten. To emphasize that neither the radical nor the impossible is being recommended, common kindergarten routines will be used for illustrative material.

One common routine, certainly, is the job of taking attendance. This is usually done by sound. That is, a child responds when he hears the teacher call his name. But, why couldn't attendance sometimes be taken "by sight," that is, why couldn't children be given cards on which their names are printed and, when they are familiar with the written form, why couldn't the teacher then take attendance by holding up name cards from a set she has made for herself? At another time, couldn't the routine become one in which children pick out their own name cards, stick them on a flannel board provided for this purpose and thus show not only that they are present, but also that they can identify their names in print? Later on, might it not also be interesting and profitable to have the children help as the teacher arranges these posted cards in alphabetical order—first Ann, then Bobby, and then David and Dorothy? And, here, wouldn't it be natural to ask, "Who sees something that's the same about David's name and Dorothy's name?" Still later the question might be, "Who hears something that's the same in David's name and Dorothy's name?"

On another occasion a teacher might make something for the children, perhaps a puppet or maybe some pudding. What might happen here? Recent observation in one kindergarten demonstrated that making pudding sometimes becomes nothing more than the making of pudding. But, what could it become? For one thing, opportunity to show how words on a box often tell a person what to do. Written in a simple way for the children, directions on a box of pudding might be listed as:

1. Mix
2. Heat
3. Chill
4. Eat

What might be learned here, at least by those children who are interested and, indeed, "ready?" That written symbols tell us something, that they are read from the top to the bottom and, for Mary or Mike as they look at the word "mix," that some words begin with the same letter, and even with the same sound.

At another time, what has been seen or done by kindergarten children can become the content for more story-like writings. For example, a walk around the school building is taken and then, together, the teacher and the children compose the following:

Today we went outside.
Everybody looked at us.
We saw a policeman.
He was in a black car.

What develops from such a story depends upon what the teacher does with it—most of all, what she encourages the children to do with it. Once stories like this are talked about and, for example, a left-to-right, top-to-bottom reading direction is indicated, couldn't they then be transferred to large pieces of cardboard to be hung around the room? In addition, couldn't the individual sentences and, later on, individual words be printed on small cards and placed in a pocket at the bottom of each story so that those children who might have interest in reproducing the story independently could do so? And, if some children ask to copy a group-composed story so that it might become their own, shouldn't paper and pencils be available and their use encouraged, though never pushed?

In carrying on the study of pre-school readers referred to earlier, it has become common to hear parents describe these children as "pencil and paper kids," as children who were always putting things down on paper, who first learned to print, and then to spell, and only then to read. Without exception, and this is true of the poor as well as the rich, these early readers are children who have had in their homes small blackboards, chalk, crayons, and always abundant supplies of paper and pencils. Shouldn't these materials also be in our kindergartens so that when kindergarten children play house, for example, some might include the writing out of a grocery list as part of their play? Or, when they play store, couldn't some children be encouraged to prepare labels for the packages and canned goods to be displayed and sold? While some children build, couldn't others make signs to be hung or painted on the sides of the buildings?

Many more examples could be cited, but these questions and suggestions are probably sufficient in number to illustrate what I have chosen to call an "exposure curriculum." However, a few general comments about it might help fill in some gaps, or answer questions which the illustrations suggest but do not answer. Perhaps the most helpful comments would be statements of the four hypotheses upon which the proposed way of teaching five-year-olds is based. They are as follows:

1. The best way to assess a young child's readiness for reading is to give him, over time, a variety of opportunities to learn to read. He then demonstrates his readiness, or the lack of it, by the way he responds to the opportunities provided, and also by what he takes from them.

2. The use of books is only one possible way of introducing children to the important job of learning to read. Many activities and materials, some of which are already a part of typical kindergarten programs, are equally valuable and, especially for young children, possibly more productive.

3. The most "natural" mode of acquiring skill in reading is different for different children. Some might do their very

best when reading is approached indirectly; that is, through writing and spelling. In their case, simple but almost immediate help with phonics seems desirable.

Other children might do their best when reading is approached more directly. In their case the use of books would be more frequent. Skill in phonics, while it would be helpful, would not be needed quite so quickly.

4. This so-called "exposure curriculum" could lead to many different ends. It might, for example, simply provide interesting things for children to do. In other instances, with other kindergarten teachers, it might easily become a confused and confusing conglomeration of many different activities. But with teachers who give time to planning and to evaluation, with teachers who allow for variety but also for a kind of consolidation of what has been learned—with these teachers an "exposure curriculum" has the potential to become an exciting, a "natural" way of introducing young children to the wonderful world of written language.

2. The Role of Phonics in the First Grade Program

GEORGE E. MASON

In this discussion I will posit answers to three questions concerning the role of phonics in the first grade program: (1) How, or in what way, does the knowledge of phonics improve children's efficiency in word recognition? (2) When is phonics instruction most helpful for the child? (3) Who may be best aided through receiving phonics instruction?

How Phonics Improve Word Recognition

A great deal of research has been dirrected at finding the factors which are most highly correlated with success in first-grade reading. The recent work of Durrell and others (1), has reinforced the earlier conclusion of research workers such as Gates (2), that knowledge of letter names and sounds correlates substantially with success in first grade reading. But why should it? Almy (3) found that children who were most interested in words and letters made better progress in first-grade reading. Which is the factor most important to reading success: interest in words and letters, knowing letter names, or knowing letter names and sounds?

Muehl (4) has recently shown that discrimination between similar words was facilitated by pretraining on the forms of the letters in those words. And Reynolds (5) has shown that auditory discrimination is predictive of success in word recognition.

Now the question has five alternatives. Is knowing letter names, knowing letter names and sounds, being interested in letters and words, knowing letter forms, or knowing specific sounds within spoken words, the factor most important to success in first grade reading?

The problem is complicated by interrelationships. If one can name all the letters on sight, he has certainly learned to discriminate between them. Interest in words and letters may have led some of the children in Almy's sample to this state of progress before Almy studied them. It also seems logical that knowing sounds of letters requires differentiating between letter forms, otherwise the sounds might not be associated with the correct letters. However, some alternatives may not be interrelated. Discriminating phonemes can have little influence on the reading progress of the child who sees no words or letters. Consequently, auditory discrimination ability does not necessarily involve knowing letter sounds or letter forms.

Durrell and Harrington (6), attempting to solve this dilemma as to which of these factors are most necessary for reading success, concluded that phonics skill had a higher relationship to reading achievement than did auditory or visual discrimination. However, visual discrimination scores correlated more highly with reading test scores than did phonics scores.

This then is the basis for my first tenet—that the basic contribution of phonics training to the first grade reading program is the skill in visual perception of letter forms which phonics training must provide. Murphy and Hochberg (7) have shown that the organizing factors in perception are the needs of the perceiver.

Requiring children to use phonics in analyzing words forces them to perceive letters in left-to-right sequence, or to attend to the parts of words as they identify or recognize, and read, whole words.

When to Teach Phonics

This factor of learner need also helps in the timing of instruction in phonics in the first grade. For from this point of view it is logical for phonic skills to be taught only when a definite need for them has been established. Since most children come to first grade expecting and wishing to learn to read, it seems appropriate to start them reading whole words as soon as they become ready. Gates and Boeker (8) found that when words were presented as wholes, the pupils differentiated among words primarily by the length. However, when the words were of the same length, they found some small detail, either a letter or part of a letter, which differentiated one word from others. Therefore we can deduce that letter discrimination is not really necessary until the learner meets word forms very similar in length or configuration, and that letter phonics instruction might conceivably be poorly learned when no need for it has been established through the meeting of similar word forms.

Muehl's earlier mentioned work (4) clearly indicates that the perceptual or discrimination skill needed is the one which is required by the new words to be taught—or, as we have pointed out, the ones meeting the needs which structure the learner's perception.

It now becomes apparent that the words to be taught are a vital consideration in determining the role of phonics in the first grade program. Words usually selected for teaching are those which are assumed (1) to have been previously spoken by nearly all the learners, (2) to have meaning for the learners, and (3) to therefore be among the most easily learned of all possible words. Cofer and Shevitz (9) have pointed out that the number of associations or meanings given to a word are related to its frequency in our language. Howes and Solomon (10) found that frequency of use is highly related to ease of recognition. It therefore seems probable that the most frequently used words will be the most easily learned and should be the first introduced.

But there is disagreement here. Bloomfield and Barnhart (11) recommend teaching initially only those words which are phonetically consistent. They would maintain a one-to-one ratio of sounds to letters in the first group of words taught. If children are to be taught by a strictly phonic method of recognizing words, this would seem advisable. However, most children can learn rapidly and effectively without formal phonics instruction. And studies have established that many children require more than phonic skills in order to identify new words and to recognize them. Gates and Russell (12) concluded, "A program containing little or no phonetic or word analysis activities in the first year is not so good as the informal program, but is at least as good as the one containing large amounts of formal phonetic work." Sexton and Herron (13) demonstrated the lack of positive effect in teaching phonics to children before grade two or age 7½. Speech investigators have found that many children are unable to discriminate between some of the consonants before 7½ years. This is why most popular first grade reading programs as developed in basal readers de-emphasize phonics until grades two and three.

Why, then, do programs emphasizing drills on phonetic analysis, sounding of letters and words in isolation, and synthetic blending of sounds into words yield reading test results at the end of grade one which are as good or better than the results obtained through a look and say approach.

One possibility is that many words are learned as sight words, even in very rigid phonics systems, because of the repetitive drill. Another can be inferred from the work of Goins (14)—that is, some children may perceive the parts but keep the whole word in mind regardless of the instructional method used. A third possibility is that the primary level measuring instruments test mainly word recognition. Any program which has word recognition as its only goal should be able to meet that goal at least as well as programs aimed at a variety of goals, especially if the same amount of time is allocated for teaching.

But this is not always true. Many phonics programs require much more time to be spent on instruction and drill than do the common basal reader programs.

Who Is Helped Most by Phonics Training

When the learning of sight words becomes difficult because of their similarity to familiar words, many children develop phonics generalizations on their own initiative before the teacher leads the class group to draw these. Hunt (15) found through his research that more intelligent pupils made more use of word analysis techniques than did the less intelligent. However, Meek (16), much earlier, found that young children mastered words with few errors if clues were pointed out, but that practice without guidance yielded little improvement. Even though intelligent children may learn phonic generalizations independently, it is probable that most children need guidance in their formulation. But, as Agnew (17) pointed out, too much phonic training in grade one can be harmful.

The Role of Phonics in the First Grade Program

As a result of the foregoing discussion, certain conclusions appear valid. Phonics instruction is necessary for some children at the time when phonic generalizations can help differentiate between similar word forms. However, many children form phonics generalizations without instruction. Phonics generalizations serve as guides to the perception of unfamiliar and unknown words. The nature of the word to be learned determines the phonic generalizations which need to be learned. The role of phonics in the first grade program is that of catalyst or facilitator of the larger job of developing the ability to recognize a large stock of words immediately at sight. When phonics instruction becomes the whole first grade program, it may not fulfill its true role, for the recognition of words may be incomplete and without meaning, or word recognition may be slow rather than immediate.

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3. Methods of Teaching Reading in the Primary Grades

DONALD L. CLELAND

Beginnings are important. In our country, from the days of *The Hornbook* to the present highly structured Basal Reader, adults have eagerly watched their children as they embark upon the all-important skill of reading. We cannot overemphasize the importance of giving proper direction to primary children as they journey along the reading road toward the aims and objectives of an effective reading program. We cannot falter in our chosen task—our citizenry, especially those who would criticize our efforts, are watching our every move.

Before I deal specifically with methods of beginning reading instruction, let me define reading and learning.

Actually, we cannot directly observe the process of learning or reading, we must be satisfied to infer that changes in behavioral patterns have taken place. One author, Smith,[1] suggests that learning is "the acquisition of new behavior patterns, or the strengthening or weakening of old behavior patterns as the result of practice." Kingsley and Garry[2] state that "Learning is the process by which behavior . . . is originated or changed through practice or training. . . ." Next, what is reading? An acceptable definition might be "Reading is a central mental activity—the reorganization of experiences back of symbols." Reading, then, may be thought of as learning. If you will accept the premise that reading is the reorganization of experiences back of the symbols, then the reorganization of these experiences results in either the acquisition of new behavior patterns or the strengthening or weakening of old behavior patterns.

Psychologists, on many occasions, have asserted that learning grows from the repeated occurrence of a stimulus and a response. Association of the spoken and written word seems to be necessary if a child is going to learn to read. The development of an association between the printed symbol and its spoken counterpart requires careful guidance on the part of the teacher. Take the so-called "look-and-say" method of teaching reading; it seems necessary that the child's eyes be on the written word as he hears the spoken word or as he pronounces it himself. Guthrie[3] notes that "many nonreaders among children foil our attempts because they have established habits of looking away from the printed word to which we point." Because of this condition, Anderson and Dearborn[4] suggest that the so-called "look-and-say" might better be called the "look-while-you-say" method. The McCracken[5] modification of the Basal System of teaching reading lends itself to this condition. The Fernald[6] kinesthetic method which emphasizes the tracing of the word while it is being pronounced forces the child to look at the word as he says it. Finally, a child has learned to read when he makes the physical, mental, and emotional responses to the printed word that he made previously to the spoken word. In other words, the child has been so conditioned that the printed symbol evokes all the affective and emotional concomitants that the spoken word aroused.

In presenting new words to a child, the teacher may call upon most of the child's sensory modalities to assure the permanent association between the written word and the experiences concomitant to the spoken word. It may take many stimuli to get the child to respond appropriately to the written word. The process of *redintegration* or *cue-reduction,* advanced by Hollingworth[7] then enters the learning situation. Redintegration refers to a situation in which a portion of a complex stimulus gives rise to the total response which was made originally only to the total complex stimulus. This concept can be carried one step further. After a child's initial experience with a new word, it takes fewer and fewer clues to recognize the word. Finally, a condition is reached in which only the barest minimal clues are needed to evoke the background experiences which are meaningful to the contextual setting of the word. Hence, this is the rationale for repeating each new word in different contextual settings which fall within the child's experiential background. This, in the academic sense, is developing word recognition skills—developing the ability to recognize words with a minimal number of clues.

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[1] Henry P. Smith and Emerald V. DeChant, *Psychology in Teaching Reading.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1961.

[2] Howard L. Kingsley and Ralph Garry, *The Nature and Conditions of Learning,* 2nd Edition, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1957.

[3] E. R. Guthrie, "Conditioning: A Theory of Learning in Terms of Stimulus, Response, and Association," *The Psychology of Learning,* Forty-first Yearbook of the National Society for the Study of Education, Part II. University of Chicago Press, 1942, p. 25.

[4] Irving H. Anderson and Walter F. Dearborn. *The Psychology of Teaching Reading.* New York: The Ronald Press Company, 1952, p. 141.

[5] Glenn McCracken. *The Right to Learn.* Chicago: Henry Regnery Company, 1959.

[6] Grace Fernald. *Remedial Techniques in Basic School Subjects.* New York: McGraw-Hill Publishing Company, 1943.

[7] H. L. Hollingworth. *Educational Psychology.* New York: Appleton-Century-Crofts, Inc., 1933.

Another traditional school of psychology is the Gestalt. This group of field theorists emphasizes the learner's cognitive structures and the meaning given by the learner to certain symbols or signs. Thus the response is an indication that "insight" has occurred and that learning, or a new behavior pattern has emerged. What a reader derives as a result of the perception of a mass of symbols is a function of the meanings he attaches to a particular order of written words. In other words, the reader derives meaning by patterning, or a configuration of the main and supporting ideas of what is read. It would appear, then, that Gestalt psychology seems to explain the reading process, particularly the process of acquiring the author's intended meaning, better than does associational psychology.

Thus, we have the Associationists and the Gestaltists, and each theory seems to contribute to the understanding of the reading process. If I could only enunciate a theoretical model of learning which would explain how a child learns to read and subsequently gains proficiency in the complicated process of obtaining the authors intended meaning, it is doubtful whether you could afford my fee.

I wish that we had sufficient time to examine all of the different approaches that have been in vogue, or are being used by teachers today, in the light of valid research. But, understandably we do not. The remaining task, then, is one which confronts you — you must and should examine your approach to the teaching of beginning reading in the light of carefully controlled research, so that the experiences you organize for the child are those which enhances the complex process of learning to read. Specifically, the question is: Which approach, the Basal, Linguistic, the supplementary Phonic and Basal, the Individualized, the Mae Carden, the Phonovisual, the McCracken, the Joplin, the Spalding, the Montessorian, etc., best embraces research? A cursory examination of research reveals equivocal results. The question "why" looms large. Is it poor research? What about the Hawthorne[8] effect; the Placebo effect? Or, is the teacher, her enthusiasm, skill, and dedication to the task one of the variables that has not been carefully controlled? To me, all this points to the most important element in any program of beginning reading instruction—*the teacher*. If the teacher is the most important element in any program of beginning reading instruction, he/she must assume the burden of understanding both the mechanical and psychological aspects of reading; understand the *laws of learning* as they pertain to the teaching of reading; be articulate in the research concerning different approaches to the teaching of reading; be thoroughly grounded in child development; and be dedicated to the task before her. *No teacher should be satisfied with less.*

Throughout this paper I have mentioned many times "approaches to beginning reading instruction." "What are these approaches?" Two large categories seem to emerge as we examine the literature—the *synthetic approach*, and the *whole-part-whole approach*. To give a clear point of reference, let us examine briefly these two large categories.

A cursory glance at the history of reading instruction in early American days reveals that the synthetic approach was used almost universally. Proponents of this method argue that since words are made up of letters, the child must first learn them. Consequently, we had the so-called ABC or spelling, and the phonics approach. In these methods or approaches, the initial unit of instruction was the name or the sound of the letters of the alphabet. Subsequent research indicated that this over emphasis on word-recognition techniques produced over-analytical readers. Their oral reading was slow and unenthusiastic with a consequent slow rate of silent reading. An undue amount of inner vocalization or implicit speech was another by-product resulting from these approaches.

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[8] F. G. Roehlisberger and William J. Dickson. *Management and the Worker*. Cambridge: Harvard University Press, 1943, p. 572.

Recently, a number of critical publications have attacked beginning reading instruction in America. Their sharpest barbs have been directed against the so-called sight method. The authors of these publications urge a return to the phonic approach. In spite of the fact that the accumulated opinions of reading specialists and the majority of research favors an eclectic approach, confusion, apparently, exists concerning the timing of the initial introduction of phonics. Many of these critics would have teachers introduce phonics prior to the development of a basic sight vocabulary. A small group of authorities, such as Diack[9] argue that whole words do not necessarily constitute the real perceptual units, and that children do not see word wholes. Thus the advocates of the synthetic approach recommend that beginning reading material should contain a preponderance of words that are phonetic in nature.

On the other hand we find a much larger group of experts who embrace the whole-part-whole or analytic-synthetic approach. Much of the research is in their favor. An argument advanced by those in this camp is that since the mature reader perceives words as wholes, the initial instruction in reading should reflect this hypothesis. They place great emphasis upon reading for meaning at the outset, claiming that children have a right to demand meaning from the printed page at the earliest stage of the instructional program. The views of this group are diametrically opposed to that of the former. The whole-part-whole approach favors the development of a small basic sight vocabulary before instruction in phonics is initiated. They favor a strong readiness program, especially those activities related to the development, and refinement of visual and auditory skills. A certain mental development, they also claim, enhances success in the phonics aspect of word recognition.

Thus we have the two large camps, the synthetic approach group, champions of the word elements as the initial unit of instruction; and the whole-part-whole or analytic-synthetic group who place great emphasis upon the elements of the sentence as the initial unit of instruction. Out of these camps has come most current methods or approaches to the teaching of reading.

Lest I be branded a maverick, I should indicate my convictions regarding beginning reading instruction. Perhaps the best way would be to describe briefly some of the experiences a hypothetical Joe Brown would have as a first grade entrant.

Joe Brown was six years and six months old when he started to school. An intelligence test revealed that he was an average boy in terms of mental maturation, but a reading readiness test revealed that he needed instruction in some phases of readiness. Miss Smith, his teacher, after a careful evaluation of the results of the reading readiness test, decided that an improvement in the following areas would enhance greatly his chances of success in the beginning reading program. She guided him as he developed visual and auditory skills. She took him on short trips and excursions, thereby increasing his experiential background, and therefore increasing his hearing and speaking vocabulary. These two vocabularies were augumented, also, through stories read to him.

Joe learned to work and play cooperatively with other children, thereby gaining stature emotionally and socially. He helped care for pets, made crude, but useful, toys, helped with various other projects, thus enhancing his ability to do problematic thinking. Orally, he gained increased skill in supplying missing words in a contextual setting. All through these activities Miss Smith nurtured and cultivated his desire to learn to read. An examination of the anecdotal records she kept and her judgments based on observations indicated that Joe was ready for his first lesson.

To effect a smooth transition from reading readiness to the reading of the first pre-primer, Miss Smith used an experience chart. She gathered the group around her and told them that they were going on the school bus to a nearby farm. They would see many farm animals, she said, and they should try to remember their names. She told them about a little brook which flowed through the meadow behind the barn, and said if they would look closely they might see some small strange animals. Joe was pleased when she told them they could help her write a story about the trip when they returned.

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[9] Hunter Diack. *Reading and the Psychology of Perception*. New York: Philosophical Library, Inc., 1960.

As soon as they got back from the trip, Miss Smith had each child tell the group about things they had seen. Joe was most enthusiastic about the milking machines, and his contributions to the discussion centered about *milking time*.

Joe and his classmates helped Miss Smith write a story about the trip, each student suggesting a sentence which she printed on the chalkboard. As soon as the story was written, they read it in unison as Miss Smith ran her hand, left to right, under the words they were reading.

The next day Joe and his classmates noticed that their teacher had written the story on a large sheet of paper. Again, Joe and his classmates read the story as Miss Smith ran her hand, left to right, under the words they were reading. Joe noted that strips of cardboard contained printing similar to that on the large chart. He was given a strip and was asked to find a sentence on the chart similar to that on the strip. Joe's classmates thought this fun as each matched sentence for sentence. Joe was given a shorter strip and was asked to find a word on the chart that looked like the word on the strip. Joe was proud when he could find more than one word on the chart that resembled the word on the short strip of cardboard.

Joe and his classmates made many trips, sometimes going to different parts of the building, other times going to the park nearby. Then at other times, Miss Smith would write a story about a trip other children had taken. Soon the children had acquired a basic sight vocabulary that would enable them to read from the first pre-primer.

The big day arrived—the day when Joe would have an opportunity to read in his first real book. Miss Smith related the events in the story to the background of the children; she introduced in a contextual setting a new word they would meet for the first time; she aided them as they established purposes for reading; the children studied the picture above the story; when she noted that they had been properly motivated, each took his turn in reading the story. They exhibited pride and enjoyment in completing successfully a task for which they had been so carefully prepared.

Joe was learning other things, also. He soon learned that his name and Jim's began with the same sound. It was not long before Joe could associate the beginning element of a word with its appropriate sound. Miss Smith noted, also, that Joe and his classmates could blend or fuse compatible sounds into a pronounceable whole. Since Joe had acquired a degree of phonetic readiness, she guided and instructed him in a few of the rudiments of phonics. Thus Joe could unlock the pronunciation of a new word, which was in his speaking or understanding vocabulary, by substituting phonetic elements.

Perhaps you are waiting for me to advise you as to the proper approach to use in beginning reading instruction. My comments may be summed up thusly: Review, if necessary, the laws of learning as they pertain to the teaching of reading; examine carefully the research, noting implications; draw your own conclusions; then, embark upon this approach with the zealousness and dedication that marks the superior teacher. I am sure your children will feel as the little girl when she expressed an attitude in the following poem:

Arithmetic is such a bore,
I cannot stand it any more
But if you'll take my advice,
You'll find that reading's very nice

As for me, I will pitch my tent in the camp of the Basal Reader group, varying the instructional program to suit the needs of the children.

4. A Balanced First Grade Reading Program

HELEN A. MURPHY

The expectation of all children when they start grade one is that they will learn to read. We know enough about the learning process, and the problems involved to guarantee to them that they all will meet this expectation. We can determine the first week of school, through simple, informal tests, each child's strengths and weaknesses, and we can provide the necessary teaching to build on his strengths and correct his weaknesses.

Reading readiness is not something we wait for, but rather it is something we must bring about through careful instruction. One of the most encouraging findings of research is that mental age is only one factor, and not the most important one, contributing to the child's success in learning to read. Auditory and visual discrimination and specific language in relation to the material of the basal reader which is to be used are more important factors than mental age, and all of these can be taught.

Phonetic writing consists of visual symbols that represent sounds in speech. Behind all reading is the fact that words are symbols for ideas, objects, qualities or relationships, and we must always keep ideas attached to the printed symbols as we introduce the child to the symbols in teaching him to read. Let us consider a program that will enable the child to acquire the tools he needs in order to learn to read.

This program must include:

1. Ear training which is the basis for phonics
2. Letter knowledge which assures the ability to recognize words
3. Applied phonics which provides practice in unlocking new words
4. Word recognition which gives practice in quick perception

Tests of learning rate, knowledge of letter names and sounds should be administered during the first week of school. Children with high learning rates and high scores on knowledge of letter names and sounds should be introduced immediately to the basal reading program, omitting the readiness material. Children with some knowledge of letters and sounds should have a concentrated program to teach these abilities, introducing some vocabulary through experience charts, and the children with little or no knowledge of letters and sounds and low learning rates should have extensive practice to develop these abilities before the reading program is introduced.

There is much evidence that many children do not hear separate sounds in spoken words. A child acquires language through imitation. He hears whole words; probably the smallest unit he ever hears as he learns to speak is a syllable, not separate letters. Exercises which require him to listen for differences in pitch using a piano or other musical instruments or differences in voices or to recognize sounds, as tapping or bells, may be effective as attention drills. These may be used until he has developed the habit of careful listening, but they will not help him to notice the difference in the first sounds of *bird* and *dog,* or *men* and *nine,* nor the difference in the final sounds in *cart* and *calf,* and he must recognize such differences if he is to learn to read without confusion.

It has not been possible to establish an order of difficulty of the various letter sounds, but it seems quite clear that in general, beginning consonants are the easiest to identify, then beginning blends, rhymes, and final consonants. Frequency of letters in the speaking vocabulary of children and in the vocabularies of primary grade textbooks, provides a good basis for introducing the letters. "S," "b," hard "c," and "t" have the highest frequencies in these lists. Lessons introducing these sounds may be presented to the whole class at the beginning of the year and will enable the teacher to locate the children who have a good ear for sound and those who need special help.

A lesson in ear training should include practice in listening for a sound or sounds in words, the visual presentation of some words and responses by each child to the sound and name of the letter which is being practiced. The teacher should dictate many words, always keeping the meaning high and always being alert and enthusiastic.

Here are some suggestions for presenting "s." Write on the board some words that begin with "s" as *sour, soap, six, Saturday* and *Sunday.* Say, "These words begin with 's' as *so.* Say them after me." Each child has a card with "s" which he holds up each time he hears a word that begins with "s." To insure meaning, dictate groups of words that are similar. For example, you might say, "These are all number words; some begin with 's'; some do not. If you hear 's' (sound) at the beginning of a word, say the word and hold up the card with 's.' Listen, *six, seventeen, two, seven, one, seventy.*" Comment on the responses as, "Yes, *six* begins with 's.'" You might have things which would be in a lunch box as *sandwich, cookie, saltine, sardine, apple, salad:* or names of people as *sailor, soldier, baker, sister, Sally, Dad;* or things to see as *sign, signal, box, television, sight.* Following the dictation, refer to the words on the board and point to them as you say them. Ask questions which can be answered by the words on the board, pointing to the word as the answer is given.

What number comes after five? (six)
How do lemons taste? (sour)
Which day comes after Friday? (Saturday)
What do you use to get your hands clean? (soap)
Which day comes after Saturday? (Sunday)

Many children will learn to read these words as well as learning the "s" sound. It is important to provide for different abilities, levels of progress and learning rates within the class.

A child can acquire the system of English phonics through an "inductive approach" which enables him to acquire phonic generalizations through experience in solving words. These variations appear very early in beginning reading as the "s" sound in *city* and *saw,* or the "r" sound in *her, bird,* and *burn.* Practice should be provided in listening and looking so that the child discovers that sounds are generally spelled certain ways, but at the same time finds that these sounds may be spelled different ways. We have tried, successfully, lessons of this type with children in regular classes in public schools. Our first attempt in grades one, two, and three was to discover if it is possible to introduce different spellings for like sounds as *John* and *George* and different sounds for similar spellings as *grow* and *now* and not confuse the children. The results were encouraging. They were not confused, and they applied the knowledge in solving new words in reading and in spelling. A second extensive study in grade one proved very effective in developing strength in phonics and in improving the reading vocabulary.

Many children come to school knowing the names of some letters. The twenty-six letters, capital and lower case, can be taught in ten days. All of the capital letters can be introduced in isolation in meaningful situations. Television channels, Kellogg's K, SOS, are samples of such opportunities. The children may be taught their initials and this will save valuable teacher time as they can identify their own papers and materials. Unless a school system does not allow the teaching of manuscript writing, written practice is interesting to the children, and effective in fixing the letters. Here again, it is possible to introduce vocabulary which some children will acquire very readily. Newspaper advertisements may be used very effectively in teaching the letter names.

In remedial work the first thing checked is the child's knowledge of letter names, and if he doesn't know them, he is taught them immediately. If we teach them before we introduce words, we will eliminate the possibility of the child's confusing such words as *want* and *went,* or *saw* and *was.*

As soon as the child knows letters and sounds and has begun to build a sight vocabulary, he should have practice in applied phonics, using his knowledge to solve new words, beginning with the substitution of beginning consonants, then initial blends, final consonants, and medial vowels. Here again, it is important to keep the meaning high. The teacher writes a group of words on the board. She defines one of the words, but does not say the word. The children respond to the definition with the word. Many different situations for a single word may be presented which will keep the child's interest, and at the same time, provide excellent practice. To give practice on *ball, bell* and *bill,* here are a few items which could be used.

Baseball is played with a bat and a .... (ball)
Cinderella went to the .... (ball)
We heard the ring of the door .... (bell)
Did you hear the fire ....? (bell)

A bird's beak may be called a
.... (bill)
The man finished the work and sent
his .... (bill)

At the close of a lesson of this type, it is well to have the children read some sentences which include some of the words so that the knowledge is transferred immediately into reading.

What is the place of the basal reader in the primary grades? The basal reader consists of stories written in a controlled vocabulary and provides an excellent outline of the necessary skills to be developed. The manual includes many fine suggestions to help the teacher in using the books. No one can write teaching materials that fit all children in all classrooms. A basal system is best suited to the children in the average group. Bright children can often go beyond what is expected, and can always move along rapidly without much of the repetition which is provided. On the other hand the children in the slow group need more repetition than is supplied, and very careful development of all the needed skills. The teacher is the one who adjusts the excellent materials provided in these systems to the particular needs of the children in her class. A teacher should know the basic philosophy of the authors, the organization and plan of the system, but she should not, in my opinion, follow absolutely what the manual says. She must use her intelligence, knowledge, and initiative and, as the director of learning, adjust the materials to the needs of the children she is teaching. Our job is to teach reading so well that children expect to read. It is difficult to stimulate bright children to want to read when they are held to a slow pace and bored with the material. As one bright child said, "I hate reading in school. You know there isn't much to one of those stories to start with, and she can make it last, and last, and last."

We should be sure that each day the child adds words to his sight vocabulary, as many as the learning rate test indicates that he can learn. He should have some reading at the instructional level and some supplementary reading when it is easy and fun. We must provide opportunities for children reading at different levels to read together. There will be children who learn more slowly than others, but this does not mean that they should not read well at their level. There is only one standard for reading—excellent reading.

5. The Teaching of Reading in the Intermediate Grades

A. STERL ARTLEY

The teaching of reading in the intermediate grades may be approached from several different angles. For the purpose of our discussion I choose to approach it by considering four points at which I would like to see more emphasis given in the middle-grade program.

First, I would like to see more attention directed to specific instructional goals in grades 4 through 6. In comparison to the primary program, that of the middle grades appears to be rather marshy and uncertain. We seem to be unsure of the direction to be taken. We might rationalize the problem by saying that in the middle grades difficulties exist that were not present on the lower level, or we may say that training courses fail to give adequate attention to the middle grade reading program. While both of these statements may be true, they seem to beg the issue.

A number of sources clearly define the scope and sequence of the middle grade program. Any textbook in reading methods devotes at least one chapter to this level, and outlines the instructional tasks to be undertaken. All of the yearbooks devoted to reading prepared by the National Society for the Study of Education have sections or chapters covering the kinds of reading growth expected of middle grade children. Guidebooks to instructional materials are very specific in terms of skill strands to be developed and levels of competency to be expected.

As I see it, the trouble is not so much in the unavailability of instructional guidelines for the middle grades, as in the fact that many teachers, and apparently some supervisors too, are not thoroughly convinced that reading instruction in grades 4 through 6 should be just as systematic, just as sequential, and just as much concerned with the development of specific reading competencies as that in grades 1 through 3. In spite of all that has been said and written to the contrary, many persist in the idea that children learn to read in the primary grades, and, hence, need only to apply already acquired skills to new middle grade content. Though there may be a time in the day set aside for reading instruction we fail to direct it to the specific needs of individuals as is more frequently done on the lower levels. Consequently, there exists the "fourth grade hump."

In the second place, I would like to see a closer alliance between reading and the other language arts areas. Research shows clearly that language growth is unitary; that reading, writing, speaking, and listening are tied together by many common elements involving structure, purpose, and skill. This being true we should facilitate growth in one area by capitalizing on the reinforcement and support that each of the other areas may provide.

For example, where would one be able to find a better base from which to teach listening than that afforded by oral reading? And on the converse, where could one find a more potent motivation for effective oral interpretation than that given by a group of interested listeners. Moreover, the skills of listening are in many respects similar to those used in reading, since both areas represent the intake side of communication. Listening attentively to follow the organizational structure of a factual account requires very much the same abilities that one uses in reading thoughtfully to trace out the writer's main points and supporting details. Oral language growth, vocabulary development, correct usage, accurate articulation, and attention to sounds and structure are no more the instructional prerogative of one area than another. Consequently, we should explore more of the possibilities of teaching language by integration rather than by fragmentation.

The third area in which I would like to see more emphasis placed in the middle grades is critical reading. Critical reading has been defined by many people in different ways. Some have assumed it to be a high level of thoughtful reading involving the ability to generalize, to search out idea relationships, to determine the author's purpose, and the like. Though it goes without saying that these are all very important abilities, they are not necessarily abilities in critical reading.

Critical reading as defined by the recent edition of the *Encyclopedia of Educational Research* is the "ability to make evaluative reactions, including an attitude of inquiry concerning the value, the quality, and the accuracy of what is read. . . ." Said in another way, a critical reader weighs the ideas. He assesses the worth of the material. In short, he evaluates it against some criteria, either assumed or stated. For example, the teacher may ask at the conclusion of a story, "Would you have behaved the way Kitty did under similar circumstances?" To answer the question the reader must evaluate Kitty's behavior against the norm of his own behavior. The end result is a careful consideration of the desirability of a certain way of acting—his versus Kitty's.

If there ever existed a time when young people should be trained to be critical in their reactions, it is now. From all sides and by all media they are bombarded by ideas, philosophies, "isms," and panaceas. Many are poorly conceived; others are the projects of vested interests; still others are the products of biased and warped thinking. Unless one has been trained to weigh and judge with extreme care, to withhold a judgment until he thoroughly comprehends the proposed idea, and to develop adequate criteria against which to judge it, he will be an easy target for propaganda and pat solutions. It is through our teaching of critical thinking through reading that we have a chance to combat propaganda and blind acceptance of what is read and heard.

Finally, I would like to see more attention given to reading as a means of promoting personal and social development. Unfortunately we get so concerned over the skills side of reading with its emphasis on word perception, readiness, and comprehension that we lose sight of why reading is being taught.

Skills are important, there is no escape from that fact, but the really important goal is the change in the individual in terms of clearer insights, modified or reinforced attitudes, and heightened emotional responses—in short, personal and social development. One may know all the phonic principles there are to be known, and be able to perceive meaning with depth of understanding, yet fail to see the relation between facts and skills on the one hand, and the way he must live and get along in this complex world, on the other. To crudely paraphrase a Biblical verse, "What doth it profit the man to know all there is to be known about reading, yet miss the values that are inherent in it?"

If growth is to take place toward the attainment of accepted cultural patterns, attitudes, and behavior it is obvious that the reading content itself must be rich in values. Comics, serial books, and lurid drugstore paperbacks can hardly suffice as a diet on which to promote personal growth. Story quality is important and no flimsy, whimsical tale, even though garbed with clever illustrations, can be considered an adequate substitute.

But something in addition to story quality is necessary if values are to be caught from the reading. Values are extracted by a depth and quality of reading that has to be stimulated and developed. Perhaps the key to this kind of reading is identification. The reader who is more likely to be affected by what he reads is the one who is able to lose himself in time and space and become an actual participant in the action taking place. Reading becomes for him an activity that has all the qualities of a first-hand experience. Experiencing richly the imagery of sight, sound, taste, and kinesthesis is another aspect of identification that can be developed in young readers. Helping them react to a story critically or emotionally is still another way of enabling them to get inside the content and to become an active participant. Through rich experiencing and close personal identification the child grows *through* reading.

In discussing these four points of emphasis there is no assumption that there are not others of equal importance. It does seem to me, however, that many of our middle grade problems do lie in our failure to sense fully the tremendous job to be done on the intermediate grade level, and to assume the equally tremendous responsibility in seeing that the job gets done. It is with this concern in mind that these pressure points are suggested.

6. Organizing for Reading Instruction in Grades Four, Five, and Six—A Four-Dimensional Approach

JOSEPHINE B. WOLFE

No topic receives wider discussion among leaders of intermediate grade pupils than "Organizing For Reading Instruction." No topic causes greater anxieties! No topic receives more publicity in the literature! Yet, if we examine the history of education, we find that the "rise or fall" of *any* organizational plan depends upon the "know how" that is applied to three generalizations drawn by researchers: (1) the higher the grade level, the wider the range of differences within a class; (2) good teaching-learning situations increase the range of individual differences existing in a classroom; and (3) interests widen and vary as pupils mature.

Never has there been an organizational plan created that can be followed by all teachers with all pupils! Good organization is best accomplished by a dimensional structure, with each dimension "tailored" to the individuals who are to use it. Four dimensions will be reviewed in this presentation—Design, Diagnosis, Direction, and Destination.

Design

Design is not structured incidentally. Inner action and inter-group action, resulting from self-interrogation, will lead to acquisition of *beliefs, understandings,* and *desires* for improving reading instruction. To determine your design, you may wish to react to these queries:

1. Do you understand the reading process?
2. Do your pupils enjoy reading?
3. Do you know the role your school is accepting in developing a society of readers?
4. Do you know the potential capacity

and reading status of each individual?

5. How do you encourage each pupil "to do his best"?
6. Which do you emphasize more among your pupils, *participation* or *competition?*
7. Do you provide equal educational opportunities for your pupils—the more able, the average, and the less able readers?
8. Do you permit your pupils "to learn and grow in reading" at their own pace?
9. Is reading emphasized as the third phase or the first phase of your language program?
10. Do you provide opportunities for your pupils to implement reading skills creatively and functionally in the content areas?
11. Do you provide a reading program that functions in *all* the daily activities of each individual's life?
12. Do you know the general, the basic, and the specific reading skills that should be introduced, developed, and maintained with each individual at each level?
13. Are your pupils flexible readers?
14. Do you guide the individual in selecting and using all available instructional materials?

Diagnosis

Good reading instruction is impossible without an accurate *diagnosis* of each pupil's capacity to achieve, his present level of achievement, his specific strengths and weaknesses, and his current independent reading level. Though standardized tests can be used, they usually test verbal ability. However, informal tests of mental ability, of silent reading, oral rereading, and oral reading achievement present a more comprehensive evaluation of *"what a pupil can do"* and *"what he is doing."*

Another effective method of diagnostic study is stock taking during daily reading activities. The following "specifics" may be observed:

1. Are the pupils able to pronounce and discuss the *concepts* and *new words* that are introduced?
2. Are the pupils able to formulate varied questions about the topic being read?
3. Do the pupils understand 75 per cent of the questions asked during the guided silent reading? Can they verify their answers?
4. Do the pupils ask for help with *less than* one out of twenty running words during the silent reading? During the oral rereading?
5. Are the pupils *free of* finger pointing, thumbing, lip movement, vocalization, and other tensions during the silent reading and the oral rereading?
6. Do the pupils exhibit faulty oral reading habits such as word-by-word reading, substitutions, and/or regression of words?
7. Do the members of each reading group complete their guided silent reading at approximately the same time?
8. Can pupils assess their individual strengths and weaknesses?

Direction

Direction in organizing reading instruction requires careful evaluation of goals and needs. An administrative model (a plan for organizing reading, instruction), the minimum essentials of reading instruction, and the use of wide and varied materials *must be carefully examined.*

The Model

In examining each of the many existing administrative *models* — the New Castle Plan, the Joplin Plan, the New York City Plan, and the plans for grouping within a classroom with basal readers — there appears to be one common objective, *teaching each pupil to read effectively and efficiently within the limits of his capacity to achieve.* Yet, practitioners perennially cope with the problem, "Which *model* is best for us?" Formulating a sensible and reliable plan is simple, *if* individual differences are recognized, *if* well-known principles of learning are observed, and *if* known and accepted principles are followed. Most of the fanatical enthusiasts and faddists who recommend patent "cure-alls" accede to each factor, but cohere to none. However, *your choice of model* must be determined by *you!*

The Minimums

If an administrative model is substantial, it provides for the minimum essentials of reading instruction: *interests, word perception,* and *thinking.* Each is indispensable and inseparable. Each can be accomplished within the elements of a well-planned and systematically developed reading lesson.

Interests

One of the chief purposes of teaching pupils to read is to help them to develop a permanent interest in reading. To nurture reading interests of boys and girls, teachers have four responsibilities:

1. To understand the sequence of pupil growth and development in relation to pupil interests.
2. To provide a favorable environment conducive to a desire to read.
3. To supply a wide and varied range of readable materials.
4. To help parents to understand, as well as to encourage, the interest facet of reading.

Word Perception

Many parents and teachers believe that reading is limited to the pronunciation of words. This is unfortunate! Of course, the competent teacher and parent know that to *read a word is to recognize it and know its meaning.* This necessitates that each pupil be equipped with a multiplicity of word perception skills. Automatic and appropriate use of these skills will ease comprehension, not impede it. To "equip pupils," teachers must be aware of each *general, basic,* and *specific reading skill,* knowing when each is introduced and when each is maintained. We should remember that we are training pupils to read *concepts,* not *words!*

Thinking

Readers think! Thinkers read! To understand language is to think it! Whether a pupil manipulates words *or* understands concepts distinguishes him as a "non-reader" or a "reader." Because thinking cannot be mechanized, many pupils are deprived of the privilege of being taught to think. But, with competent guidance, pupils can be stimulated to think within the limits of their potential capacity, their experiences, and their interests. Literally, the real business of teaching reading is teaching thinking!

The Materials

Acquisition, organization, and use of materials have a vital bearing on the success or failure of a reading program. There is an urgent need to provide materials that will enable pupils to achieve the essentials of reading instruction. Basal readers, with their workbooks and teachers' guides, are an important part of a well-planned reading program whether they are used basally, co-basally, or tri-basally. However, a reading program that provides for varying levels of reading achievement and aims to stimulate and to satisfy the interests of its clientele cannot confine itself to basal readers. Boys and girls must have access to a multitude of trade books, encyclopedias, globes, charts, films, filmstrips, and other instructional materials. Bluntly, there is *no single tool* for teaching reading!

Destination

Destination is the most dynamic dimension. *The organization of a reading program in grades four, five, and six* whereby each pupil can achieve his potential and develop a zest for reading should be the sight set by the members of our profession who desire to organize and to provide a program of reading improvement. Of course, the perceptive leader is cognizant that a *destination* of this nature will be a challenge for the competent, a perplexity for the inept, and "another pedagogical demand" for the complacent. Goals, patterns, materials, and a knowledge of the minimum essentials are not enough! It is the *use* teachers make of these with each individual that determines whether we produce effective readers of today and active, able readers of tomorrow.

7. Teaching a Reading Lesson in the Intermediate Grades

J. E. SPARKS

The teaching of a reading lesson in the intermediate grades of the elementary school provides an excellent means to reinforce the basic reading instruction of the primary years, to introduce some of the refined study skills, and to lay the groundwork for coping with the heavy quantity of reading coming along in junior and senior high and in college.

Children in grades four, five and six are in crucial years in the development of certain reading and study skills which they will need for the remainder of their school life. Proper teaching at this point, with follow-up reinforcement grade by grade, will pay dividends. It is much easier to instill the proper skills at the beginning than to wait until senior high or college years, when bad habits are so firmly entrenched that many students require much remedial instruction to break them before forming good ones.

Whether he applies them to literature, social studies, or science, the teacher can use some basic principles of skill instruction that the writer of this paper summarizes as WRMR — Warm-up; Read; Make Study Notes; and Review.

Warm-up

One possible motivating factor to interest students in the reading and study processes is to relate those processes to athletic skills, such as those in football, baseball, or swimming. This type of reference particularly appeals to boys, who often carry the heaviest "chips" about reading and study.

The baseball, football, or swimming coach would not pit his team against an opponent without some instruction in techniques—without some drill and practice before a match — or without some warm-up sessions just prior to the contest itself. The intermediate grade teacher of reading should consider himself the "literature coach," the "social studies coach," the "science coach," and the class his team. Thus, he would furnish his team with some warm-up practice before going into the contest involving the reading, which he trusts will be performed in a more efficient manner than that of any preceding assignment. If the students can, at the same time, regard their academic teacher as their "coach," they may take a more vital interest in their studies.

In this warm-up session, the students should do the following:

1. Note the author and title of the textbook containing the assigned reading.
2. Use the table of contents to find the assignment rapidly.
3. See a relationship between the title of the assigned reading and the remainder of the book.
4. Read an introduction, if there is one.
5. Quickly survey boldface or italicized headings, pictures, maps, charts, tables, graphs.
6. Turn headings into questions by asking *Who, What, When, Where, Why,* or *How.*
7. Following this survey-question technique, try reciting aloud the ideas noted. Another possibility in recitation is to jot down on a notebook sheet the major headings—in order to see the over-all organization of several pages of printed material at one glance.
8. During this warm-up, the student may have ready a pack of three by five cards in order to record on each any words or terms that puzzle him. Later, he might make vocabulary flash cards of these—if the reading or context does not reveal understanding of the words.

For the longest of chapters assigned in the intermediate grades, this warm-up should take no more than five minutes; in fact, two or three minutes will generally pay dividends once the student becomes proficient at this skill. Such warm-up now has the reader much better prepared for the next step: thorough understanding of the reading assignment.

Read

With an active warm-up, the student is

now ready for the serious reading. The distractions of previous activity are disappearing, and concentration upon the task at hand is increasing. With the organization of the entire assignment in mind, the student is better equipped to follow the author's presentation in a more unified manner.

At this point, the reader may have found some aspect of the chapter to interest him. He should be able to spot key words and phrases with more ease. He has been building into himself the qualities that will enable him to remember the content of the reading more thoroughly and for a longer period of time. These will become important when the time comes to study for a test on the material.

When you meet a stranger for the first time at a party, you usually have no point of reference to begin a conversation. But as you chat informally with this stranger, you learn about his background, his interests, his occupation. And the more you talk, the more familiar becomes this stranger. The same experience can occur as the student becomes intimate with the authors of the textbooks he uses in school. Spending time knowing an author in the early chapters of his book will make reading his later chapters much easier.

An active warm-up can enable the student to read the assignment much more rapidly than he might otherwise have done. The teacher is automatically developing sound speed-reading techniques that will help the student to adjust his rate of reading to fit the purposes of social studies, literature, or science.

Make Study Notes

Once the reading has been completed, the wise student makes a set of study notes on the assignment—notes patterned upon the organization of the author but made in the words of the reader. Note the use of the term, *making notes.* The writer feels that this is the *real* skill—that any student can readily master *note-taking.*

These are the student's own study notes—to be used in studying for class discussion, for a quiz on the assignment, or for an eventual test on a unit. For best future use, they should possess certain characteristics:

1. Legibility (for reading tomorrow, next week, or next month).
2. Proper labeling of subject and date.
3. Adequate indentation of details shown in relationship to the main ideas.
4. Brief wording or phrasing (not copying of sentences from the text).
5. Writing *after* the reading of a section.

The student must learn to read through a section (such as that following a boldface heading) *before* he makes his notes. Otherwise, he may *copy* too much in the original words—and be no better off than if he had just read the material.

The student may often protest at the beginning that a first reading through warm-up, a second complete reading, and the necessary third reading for making the study notes consume too much time for one assignment—that he has much other reading to do. The writer has had students keep progress records of their work over several weeks. They have gone from less than one hundred words a minute for study time (including both the reading and the note-making) to more than two hundred and three hundred words per minute—and greatly improved their comprehension at the same time!

The note-making adds another sense to the study process—that of touch. Up to this point, the student has used sight, speech, hearing. With four senses operating for him, the student will remember more and remember it longer—thus making him much more efficient.

Review

After making his study notes, the student should read them over rapidly, again solidifying the content of the assignment more firmly in his mind. This quick review will also pinpoint aspects of the reading that were especially difficult. For those he should make references back to the text—but only for those. The oral recitation of review is more efficient than the constant re-reading that too many students do.

The good student is also the one who will independently survey other books, magazines, and reference materials to build upon the content of the assigned text. Extending knowledge beyond the assignment and finding ways to relate it to other work in the classroom will make a more efficient student.

Conclusion

If the would-be swimmer just sits in the pool passively, he will never learn to swim. He needs to get involved actively—to move arms and legs and body in the proper ways. He needs to "fight" with it.

Likewise, just moving the eyes over a reading assignment, turning pages, and noting all of the words will mean absolutely nothing. Often, a student reports to his teacher, "I read every bit of the assignment, but I didn't understand it." He is being honest in his comment. But what he has mistakenly done is to read every *word*. He hasn't read a single *idea*.

Acquiring the full comprehension of the main ideas and the related details will come from active study — by warm-up, proper reading, note-making, and reviewing.

8. Teaching the Reading of Literature in the Elementary School

HELENE W. HARTLEY

That your program committee should choose "Teaching the Reading of Literature in the Elementary School" for special consideration has a twofold implication: they must believe that learning to read literature is an important concern of elementary education, and that it requires some special skills beyond those essential for all reading.

It is a temptation to discuss the first of these implications—that teaching children to read literature is important, both for the values that result as ends in themselves, and because that learning can serve as a means to the end of facilitating the teaching of reading in general, providing stimulus and motivation, fostering vocabulary growth, teaching adaptation of speed to purpose, and helping with other skills that are the goals of all teaching. But instead let us concentrate on the second implication — that reading literature requires particular skills and techniques that must be learned and that pose special problems of instruction.

Reading as a process by which we get meaning from written expression always involves certain basic skills: word recognition and definition; perception of structure and organizaton, as in sentence and paragraph; alertness to meaning clues, as punctuation, transitions, emphases. Upon these skills comprehension of meaning in factitive and informative writing primarily depends. Most of our teaching is concerned with promoting steady growth in their use toward accurate and properly speedy comprehension. But when we turn to literature, the concept of "meaning" must be extended to include import beyond the literal statement of fact—emotional, aesthetic, imaginative, philosophical import — the communication of which requires techniques in addition to those necessary for all written expression. To learn to read literature is to learn to perceive, and use, and respond to these further modes of expression upon which the writer of literature must rely.

This difference between factitive and literary meaning presents the first problem in teaching. We must help establish a different "set," to borrow a term used by psychologists for the preparatory or facilitating condition that precedes and accompanies actual behavior. Since one "set" toward a particular stimulus or process can actively inhibit another, a first essential in reading literature is to learn to shift from the set to read rapidly for accurate comprehension of literal meaning to that necessary in order to feel, to savor, to imagine, to experience, to enjoy.

A young neighbor of mine shut in for a few days with a cold told me he had read ten books in that time. "That's a lot, isn't it?" he asked. "I can read fast." "Good for you," I said. "What is this one about?" "Oh, some boys got lost in the woods, but they found their way out all right. They used signs they had learned in Scouting." Speed and comprehension seemed satisfactory, we might say; but when I probed beyond the facts for a shared experience, I found that reading for such meaning had not taken place. "I've never been lost in the woods," I said. "I wonder how it would feel—night coming down, shadows getting thicker, walking in circles maybe!" Turning to the well written book, I read aloud that moment when realization that they were lost first came to the boys. My young friend's eyes widened in imagination; he began looking around among those trees; night sounds came to him from words the writer had carefully chosen to convey them. As I laid the book down, he quietly picked it up and started reading again. I tip-toed from the room, leaving him, I hoped, "set" now to read for imagined experience, for sights and sounds, for emotional response of fright and relief—set, in other words, to read the story as literature.

In the classroom there are many ways to help children take this first step. A bit of ritual can help—putting work away, taking comfortable positions, gathering in circles. Then, too, moments can be seized that create without contrivance a readiness to share a piece of literature that captures and enhances it. A wind blows outside, rattling windows, sending leaves scurrying by. "Listen!" you say. "Hear the wind!" Then quietly, "I saw you toss the kites on high, And blow the birds about the sky .... Oh wind, a-blowing all day long, Oh wind that sings so loud a song." In one school of my acquaintance each teacher keeps on her desk a typed anthology of her own selection of literature, anticipating those moments throughout the year when mood, or incident, or weather will create readiness to read for literary experience. A library corner for relaxation and library periods rightly conducted can help establish the necessary set. But most important is the teacher's voice and manner and genuine enjoyment to strike the key, to set the tone, to arouse pleasant anticipation for a special kind of reading.

Besides adjustment to the nature and purpose of reading for literary meaning, children must be led to perceive and respond to the unique ways by which such meanings are conveyed. This perception must come in the elementary school less from direct teaching of techniques than from abundant, satisfying experience of response to them, and gradually made a conscious means of reading and enjoyment under the guidance of a skillful teacher.

Of all these modes of expression none is more important than tempo, movement, rhythm. Fortunately the youngest child can understand this as language if he hears and participates in good oral reading and if response is not inhibited. Skipping to the gay measures of "Here we go round the mulberry bush—"; swaying with the long, slow movement of Stevenson's marvelous use of syncopation in "The Swing"; listening with wonder, imagination, and a bit of awe to Blake's "Tiger! Tiger! burning bright, In the forests of the night—"; settling back happily with the magic unfolding of "Once upon a time —"; these are beginnings for little children. From such experiences they can grow into an adult reader's response to all the subtleties and variations of tempo by which meaning is made clear as truly as by words. Before the end of the elementary school young readers should understand with Mark Van Doren that: "Some books are fast and some are slow, but no book can be understood if it is taken at the wrong speed."

That words have meanings beyond their literal definition must also be learned. Time must be taken in the reading program for children to enjoy words that "sound right," that call up association and imagery, that elicit mood and set the tone. Creative work of their own will help, such as seeking the word that best says how a jet plane sounds when it takes off; the different ways in which the word "blue" can look; the many words for feeling "glad." Here again reading aloud is essential. The sound of Kipling's "great, grey-green, greasy Limpopo River, all set about with fever-trees" is description beyond the words. "The Raggle, Taggle Gypsies, O" carry rich connotation of their gay disreputability. And how different is a tale of "wee folk" from one that might speak of them as undersized or dwarfed.

Since children themselves are given to figurative expression, they are quick to understand what a writer is doing when he personifies, compares, names one thing for another, resorts to hyperbole. They understand, for example, when Kenneth Grahame says that Mole sat by the river that "chattered on to him, a babbling procession of the best stories in the world, sent from the heart of the earth to be told at last to the insatiable sea."

Besides the modes of expression essential in all literature, each literary type—poetry, drama, story—calls for its own reading skill. For each a planned sequence of learning is needed. For example, the difficult art of reading drama should begin with spontaneous play-acting of stories in kindergarten and first grades. Puppetry, and writing original plays for performance, will follow. Watching and producing well written plays for children carry experience along, until they come to understand that setting, gesture and pantomime, stance, tone of voice are as important a part of a play as the words that are spoken, and that these must be reproduced in the mind as they read. If the fine art of reading plays is taught them in the elementary school, it may be that as adults they will not be left with television and the movies as their only access to drama.

Similar learning sequences are needed with poetry and story, until the modes of communication peculiar to each become familiar and readily used in reading them. Whether or not such teaching of the fine art of reading literature will open to all an enriching resource for life, at least every individual should be given the opportunity to discover it. Responsibility for the inception and basic development of this kind of reading rests upon the elementary school, for without such early development its values for the majority will never be achieved.

9. Who Teaches Reading in the Secondary School?

HARRY T. HAHN

This much is known. Very few young people enter high school as mature readers for they are still in the process of developing skills, attitudes, and knowledge necessary to read and learn with instruction or on their own. If these students are to receive a sizable dividend for the time and effort they invest in reading, particularly in new and strange content areas, they need consistent guidance in organizing and extending the knowledge and skills they already possess.

Who provides this reading instruction? The suggestion that every teacher has this responsibility is apt to ignite a pervasive, contentious spirit in high school faculty meetings. The answer seems to imply that new and foreign content must be added to an already crowded program. How, indeed, does a teacher resolve the learning problems of 150 or more students she sees every day?

The direct teaching of reading and study skills in special English classes or reading laboratories has provided one approach and, fortunately, has gained in popular support. In fact, Pennsylvania passed a law requiring time be devoted to reading instruction in the seventh and eighth grade. The increasing variety of useful publications,[1] the growing understanding of the specific skills needed[2], and the training of competent reading instructors has been a boon to the slow starters as well as alert readers who want and need assistance in demonstrating more nearly their learning potentials. Indeed, reading teachers in high school have been the unsung heroes of the student conservation or holding power campaign battling with compassion for the individual's right to learn at a rate consistent with his abilities, skills and understanding.

Direct teaching of reading and study skills, no matter how effective, is not enough. In too many cases special instruction cannot bridge the gap between pupil skills and teacher expectations. It is obvious that content area teachers must be involved with the full recognition of their obligation to develop their course content. This is where we find the important challenge in high school. This is the area which demands study and experimentation.

Learning to read is essentially synonymous with the term learning to learn except that reading focuses attention on the interpretation of orthographic symbols. Thus, the strategy of reading instruction is not unlike the strategy employed by the master teacher who has discovered many ways to expand, enrich and organize pupils' experiences in order to develop new concepts or recall and reinforce previously learned ones. This strategy, simply stated by Russell[3], tested by Ramsay[4], suggests that the teacher's role is to guide young people to think before, during, after and beyond a reading assignment.

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[1] Curriculum Research Report, *Reading in the Secondary Schools*. Bureau of Curriculum Research, Board of Education of the City of New York, 1961.

[2] M. Jerry Weiss. *Reading in the Secondary Schools*. New York: The Odyssey Press, Inc., 1961; *Reading Skills and Methods of Teaching Them*, Kansas Studies in Education; "Teaching Essential Reading Skills." *Bulletin of the National Association of Secondary Principals.*

Excellent teachers provide examples of this strategy. Beginning secondary teachers who observed a directed history lesson were intrigued with the teacher's role in preparing the class to get into a book, get what they wanted and then get out. They were particularly impressed with the way students and books were brought together by skillful questioning, background development, vocabulary enrichment and the use of various audio-visual aids to set the stage for learning. One aspiring science teacher, observing an introduction to a directed science lesson, felt that it had all of the excitement and curiosity of a three ringed circus. A tenth-grade social studies teacher showed how he worked with a group of slow learners. He recognized that the difficult text could be of value, although limited, if he carefully structured questions which would guide the reader from paragraph to paragraph. When the reading assignments were made, he had the students work in pairs to find the answers to his questions. The young people and teacher were pleased with the dividend received. When it was suggested to this teacher that he had been providing excellent reading instruction, he was puzzled. Is this what the term "teaching of reading" implied?

Teacher awareness of the possibilities of developing and refining specific reading and study skills is merely the first step in penetrating the "paper curtain." If any plan is to be generally effective it must be part of the curriculum and not incidental to it. This implies that the course of study in English, science, mathematics, social studies, and other areas must be designed to provide for the wide range of reading abilities which, test results show, will be found in every classroom. Concern for ways to make words brim with meaning must be incorporated together with the materials and devices necessary to get the job done. It is not enough to give a new teacher text books and heterogeneous or homogeneous groups of students and simply told to "get in there and teach!"

A brief case report of the development of the English curriculum in Pontiac, Michigan, will be cited as one example of a successful attempt to include a continuous program of reading instruction in a course of study. Representative English teachers from the junior and senior high schools were employed during the summer months, five years ago, to develop a practical program for systematic, differentiated language arts instruction. At that time the decision was made to continue with heterogeneous grouping and to expand the unit theme ideas in their literature anthologies. A detailed outline of a unit theme on sports was prepared with particular provisions for differentiated instruction at all reading levels. The plan was examined, discussed, and revised in a series of conferences with all English teachers the following semester. When there appeared to be general acceptance of the unit theme concept, the school administration appointed two creative teachers, on a half-time basis for a full semester, to develop thematic units for seventh and eighth graders. Subsequently, a program for the remaining four years was also written.

The Pontiac Literature-Centered Unit Plan[5], as it is called, outlined the language arts skills which would be considered throughout the school year and provided detailed suggestions of times, places and materials with which to promote skills in reading, spelling, grammar, and composition.

The unit plan was expressly designed to make provisions for: needs of individual learners; materials at all levels to develop basic concepts; enriching audio-visual experiences; and a wide range of reading choices within a student's interest areas. Teachers were guided to initiate the unit with a common literary experience from one of the anthologies. In-service programs stressed the importance of carefully directed reading instruction in this introduction. The common literary experiences chosen were of average difficulty, effectively presented the theme and were fairly well-written stories or articles. Following the common reading, it was recognized that all of the students did not have to read the same stories to develop basic unit theme concepts. To facilitate differentiated guidance, suggested readings and related activities were identified in three performance categories: low, average, and high. Students soon discovered the material which they could read successfully and tended to read widely on designated themes. Particular attention was given to a choice of materials for the severely retarded readers even though these young people received additional help in special reading classes.

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[3] David H. Russell. *Children Learn to Read.* Boston: Ginn and Co., 1961.

[4] Wallace Z. Ramsay. "An Experiment in Teaching Reading in High School English Classes," *English Journal*, 46 November, 1957); pp. 495-500.

[5] *Language Arts, A Course of Study for grades 7, 8, 9 — to 11 and 12.* Pontiac Board of Education, Pontiac, Michigan.

The English department had developed a plan teachers could use. However, the printed words were cold. To make them come to life a junior high school language arts helping teacher was employed to organize workshops, demonstrate specific practices, revise units when necessary, supply materials, and, most important, meet with individual teachers to discuss specific problems. At the high school level, the heads of the English departments were given released time to interpret this program.

Since the development of the Pontiac course of study, the Scholastic Literature Units have been published following a somewhat similar plan with paperback materials. This plan also provides considerable flexibility in providing reading instruction.

In both plans, teachers are provided detailed instruction and materials to enhance students' reading skills. Thus, "teaching of reading" is not a nebulous idea. Similar provisions could be made in other content areas particularly if the matter was considered in the planning stage. For instance, the development of a concept-based or key idea centered curriculum in social studies[6] which will start in Oakland County in September, 1962, offers promising opportunities for reading instruction to be effectively incorporated in the lesson ideas which will be prepared. If the "what" and the "why" concerns of any subject are to make sense for a large majority of the students, it is evident that the "how" questions must receive closer attention.

10. Methods of Teaching Reading in the Junior High School

LAWRENCE W. CARRILLO

Before we had junior high schools, there was no question about it—reading was a regular part of the curriculum in the seventh and eighth grades. Then, because the new combination of grades developed a secondary school orientation and organization, somehow it was assumed that the basic skills of reading were taught in the first six grades. Obviously, this was an incorrect assumption; not only do we know that there will be pupils in junior high reading at the second or third grade level (as well as tenth and eleventh), but we know also that the skill of reading is never completely taught nor completely learned at any age. Witness the college reading courses, even at such selective universities as Harvard; the reading classes at the Air University; and the teaching of special skills of reading to Congressmen and to businessmen. Furthermore, children are younger now at each grade placement than they were previously, and this means that the necessary maturity for the full acquisition of reading skill may be lacking, especially among the boys.

Reading instruction, then, is essential in junior high school. It may appear as developmental, corrective, or remedial reading, and should appear as all three, considering the range of individual differences. The teaching of reading is the responsibility of every teacher, no matter what his specialization or specific job in the school.

References for Teachers and Administrators

Methods will vary, depending upon the class, the level of student ability, the personality and approach of the teacher, the materials used, and other factors. In general, however, methods in junior high are little different from those used in the intermediate grades. In recent years, there has been a tendency for administrators in junior high school to hire elementary-trained teachers for seventh and eighth grade classes in developmental reading, remedial reading, and "core" or "basic" classes. The reasons for this are mainly: (1) the teaching of reading is necessary, and (2) secondary school teachers usually have neither the training nor the experience to handle the job.

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[6] Myles Platt. *A Proposal for the Development of a Concept Based Curriculum in Social Studies for Grades Kindergarten Through Twelve.* Oakland County Board of Education, Pontiac, Michigan, 1962.

There are now a number of books designed to help secondary teachers become more able to teach reading. They all give you much more than can any presentation of this brevity. For examples, see: Jewett, *Improving Reading in the Junior High School;* Strang and Bracken, *Making Better Readers;* Strang, McCullough and Traxler, *The Improvement of Reading;* Weiss, *Reading in the Secondary School;* Bamman, Hogan, and Greene, *Reading Instruction in the Secondary School.* Other helpful materials are appearing rapidly, as Sheldon's chapter in the Sixtieth N.S.S.E. Yearbook or Carrillo's *Reading Extension Service Units.*

Most of these references emphasize the necessity for total-school participation in reading improvement, and give suggestions for the teaching of reading in content classes as well as English and reading classes. This emphasis is essential—reading permeates all classes, including shop and homemaking, and without attention from all instructors of all subjects, real progress is unlikely.

Methods

A number of "pure" methods of teaching reading have been used at various times:

- experience method
- sight methods, or "look and say" methods
    - sight word method
    - word-phrase method
    - sentence-story method
- word attack methods
    - phonics methods
    - structural analysis methods
- alphabet-spelling method
- oral reading method
- non-oral method
- audio-visual method
- kinesthetic method
- individualized reading method
- multilevel materials method

Only two or three of these fifteen are now being advocated as "pure" methods. Even these have relatively few champions, though the few seem to be highly vocal. Most teachers today use a combination of many of these methods. There seems to be little question that a method which combines many of these, rather than any separate method, is more likely to help more children learn to read. There are great differences in learning rate, in the kinds of thinking, in which stimuli make the greatest or longest-lasting impression, and in every other aspect of learning among individuals. Therefore, it is only reasonable to attempt to reach more students by including parts of many methods.

Basal Readers

Basal readers are probably the best avenue for instructing *both* the pupils and the teacher in reading. The typical modern series of basal readers is actually a *program,* not merely a graded series of books. The stories in the series provide the framework through which various reading skills are introduced and maintained. A well planned series leaves no skill development to chance. They are planned around centers of interest, themes, or units. Skills are introduced gradually at a time when efficient learning should be possible, and each succeeding book presents new and more difficult levels of skill while maintaining those previously introduced. Vocabulary is controlled so that the load is not too great. But the greatest boon is the guide. Any teacher who is beginning to teach reading must first realize that the stories are only a vehicle for teaching the skills of reading, not a complete end in themselves. The suggestions given in the guide tell *specifically* how to teach all of the various skills of reading applicable to that story and to the present stage of development of the learner. A broad combination of methods is used.

Basals used in the junior high should probably be a continuation of those used in reading for the first six grades, though this is not always essential for those achieving above grade level. But certainly those children who have not developed rapidly in reading need a very careful and controlled approach, such as that which the basals provide, especially if the teacher is rather inexperienced in the teaching of reading. Furthermore, the guide will show lists of books and other materials which are useful in extending knowledge and in stimulating interests.

Workbooks to accompany basal readers are available. It is likely that the best workbook to purchase is the one which supplements the reader and follows the same developmental pattern. Work done in any workbook, however, may be dangerous, since repetition of mistakes needs to be avoided. Consequently, the work should be checked often—preferably *as it is being done*—so that mistakes are caught and not taught. A workbook, used properly, makes more work for the teacher, not less. It should always be used under constant teacher supervision.

Multilevel Materials

In the last few years, multilevel materials, such as the *SRA Reading Laboratories*, have made quite an impression in secondary school reading instruction. These boxes of reading materials provide for the large spread of reading abilities in a classroom, make it possible for each pupil to work at his own level but still have the entire group working together, have a teacher's guide that can be followed by inexperienced teachers, and create a great deal of pupil interest as well as reading skill.

There is some danger, however, that the teacher who employs this material will feel that he has given a complete reading program by using this method, whereas in reality there are some portions of a complete program which are not present.

Basal readers or anthologies *plus* the *Reading Laboratory* will combine to make a better program than either can by itself. Here again, the combination method holds more promise. Both should lead to reading in supplementary and trade books. Oral reading and group discussion may come from the basal. Individual development at the pace of that individual may evolve from the use of the *Laboratory*.

Other multilevel materials, such as those now appearing in paperbacks, for example, the *Scholastic Literature Units*, might also be employed. Although many of the multilevel materials are designed for a "teaching unit," as a teacher gains experience he may be able to combine and spread out these materials, rather than concentrating too heavily on one and then dropping it to go to another.

Methods and Materials

There are many different materials of all kinds available. The few examples given here have been chosen to present the concept that methods and materials are inseparable. What you have to work with determines, to a great extent, how you will work.

Of course, a creative teacher can improvise with very little, but with large and various classes, time for creativity is at a premium. Also, the same teacher will show better results with better materials. Materials, then, should be chosen with great care, since they affect both pupil and teacher, and tend to determine method.

Summary

No single type of material or particular method has the complete answer to the teaching of reading. The best programs show:

1. A wealth of varied materials
2. Combination methods, varying with pupil level, need, and problem
3. Experienced and well-trained teachers, teaching skills as well as content
4. All-school participation in the reading program

11. Reading Instruction in the High School Literature Class

LEO FAY

In certain quarters, voices speaking in angry and bitter tones complain that our young people read more poorly than ever before. On the other hand, reports of college entrance examinations, librarians and publishers suggest that today's youth, as a group, are more competent and more avid readers than their predecessors. Each point of view marshalls impressive statistics to support its contentions, and often each is guilty of overstating its cause. While the situation is not as bleak as Walcutt's[1] charge that in a typical American high school, one third of the ninth grade students read at the second and third grade level, it is also true that it is the proportion he claims that is in error, and not that many of our high school youth are, in fact, poor readers. This group of poor readers, regardless of number, represents a shameful indictment of a society that has both the means and the knowledge to largely overcome this blight but that lacks the determination and belief in education to really take the necessary corrective measures. The problem is deeper than the schools. It permeates much of our society, and will not be overcome until we, as a people, learn to value scholarships and literacy more highly than we do chewing gum.

We can't solve this problem here and now, but we can be realists and realize that no insignificant part of the problem in teaching literature relates directly to the vast range of talent faced by the classroom teacher. A range that extends from those who function no better than primary readers to others, at the same ages in the same high school classes, who can hold their own with college students. With this look at reality as background let us look at certain basic questions that are of significance to the teacher of high school literature.

Fundamental, of course, is the question of what is to be accomplished in the literature program. What are its goals? This in turn leads to a necessary consideration of what the student should read to meet these goals. While literature needs to be read does it follow that reading should be taught through literature? These questions are all related to the major concern of this paper, to discuss the reading skills that relate directly to the successful reading of literature.

Goals of the Literature Program

Using publications of the N.C.T.E. as a resource, the goals of the high school literature program are concerned with gaining an insight into the range of man's experiences and ideals, developing an appreciation of literary works as a basis for exercising taste in what is read, developing a habit of turning to reading for personal development, developing the skills for intelligent interpretation, and, through literature, enriching the personal lives of youth.

With this summary statement as a guidepost, the question of what a student should read becomes significant.

The range of ability and hence need, coupled with the wide scope of our objectives makes the restricted list of time-honored classics an impossible choice. There is no possible list of selections equally appropriate for all. This implies quite naturally that the teacher must know, and the school make available, large numbers of books representing a wide range of both content and reading difficulty. Nor is this all. Of greater importance and more demanding of the teacher is the need to know the interests and abilities of students. It is immensely easier to know the content of books than it is to be truly sensitive to the needs and abilities of all one's students—the eager, the indifferent, the able, the slow, the enthusiastic, the stolid. But yet, if literature is to make a difference in their lives, it must be personalized. Somehow we must help each student find particular selections that at a given time offer him something of importance and enjoyment.

Does the meeting of individual needs in the selection of what is read lower standards to the level of the most mediocre? Quite to the contrary, such a practice carried to its logical conclusion results in the highest possible standard—the best from each student becomes the minimum acceptable standard. It is the unthinking restriction to a few selections that are "good for everyone" that lowers performance and that results in such compromises as the classics in simplified and comic book form.

The Skills for Reading Literature

The English teacher might very well

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[1] Charles C. Walcutt, *Tomorrow's Illiterates*, Boston: Little, Bown and Company, 1961, p. 7.

accept all of this but be left with a lingering doubt as to his responsibilities in regard to reading and literature. In no sense is the idea implied that a developmental reading program should be carried out as part of the teaching of literature. Each has its own goals and values. Each merits attention by itself. However, there are specific reading skills that relate directly to the successful reading of literature. The teacher does have a direct responsibility for guiding the development of these skills as he teaches literature.

The teacher is rightly concerned that his students learn to read effectively and react to the different forms of literature—the novel, short story, drama, poetry. In addition, students need guidance in reacting to content. As in all reading, they need first to comprehend what they read through mastery of word, sentence and paragraph meaning. In this context, work with the word includes the enrichment of meaning but not the mechanical phonetic attack skills. Word study that leads to rich sensory imagery gives life to literature. Sentences of different kinds are studied, students read for significant detail, summarize main ideas, study the plot, the characters, and the development of the author's thoughts. Help is given to organize ideas into notes, outlines, and reports. All of these activities help the student become an effective literal reader—the first stage of literacy in the reading of literature.

There is another way of reacting to the content of what is read that makes literature more personal for the reader. The reader must learn to play an active role when reading. Not only taking what the author has to give but inserting himself and his personal values and beliefs into the situation. Some call this creative reading, others interpretative reading, and still others critical reading. Regardless of name, the essential point is that the reader learns to react to what he reads, to shades of meaning, to inferences, to evidences of emotions, that he draw conclusions, see relationships and make judgments in terms of life as he knows it, what he believes and what he holds dear. This active reaction results in the higher level of literacy that is essential for fulfilling the goal of personal development through reading.

Reading as a means of personal development carries a second implication for the literature teacher. We speak of developing interests and tastes for this purpose. These are lofty words but they don't quite catch the spark of what needs to be done. As part of the active and personal involvement of the student in what he reads, the teacher needs to guide him to actively seek out good literature, to extend his horizons, and to develop a habit of turning to the printed word as a means of stimulating personal development. This is a way of life that we can foster by providing our students with a wide acquaintance with literature and by reflecting the values of this type of personal development within ourselves.

The picture of reading in literature is completed with the fourth dimension of efficiency in reading. To many, efficiency has become synonymous with speed. They visualize booths and machines and charts showing spectacular gain lines. Heaven forbid that the reading of literature should ever become this! However, speed has its place in the reading of literature. At times it is appropriate to skim, at other times one must read with careful deliberation and perhaps even reread. It is important to know not only *how* to read in different ways but also when. The content of literature provides splendid opportunities for students to develop these insights to guide their future reading.

Reading in literature is thus concerned with the major elements of developing the skills of literal comprehension and of critical reading, personal development through reading, and increased efficiency.

The Action Step

How all this can be done is best learned from the practices of classroom teachers. Excellent examples are found in the work of Mrs. Fern Barnett and Mr. Edward Jenkinson[2], of South Bend, Indiana. These teachers, working at ninth and twelfth grade levels respectively, were able to show that attention to reading skills as suggested here make dramatic differences in their literature programs. Not the least significant of their findings was that critical reaction and demands for greater efficiency resulted in frustration for several "A" students who discovered that to memorize and to think critically were not synonymous. The ninth grade program, organized about a unit concerned with recognizing and understanding propaganda, took the students to over a hundred references ranging from classics to popular short stories and public affairs pamphlets. Motivation ran high. Some students who had been labeled as mediocre performed exceptionally well. The teacher's remark was significant when she said, "Apparently their reasoning power had never been called out in English work to any perceptible degree."

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[2] Leo Fay. *Improving the Teaching of Reading by Teacher Experimentation.* Bulletin of the School of Education, Indiana University, Bloomington, September 1958, pp. 51-56.

The twelfth grade class emphasized both vocabulary development and effective techniques of reading literature. These were superior students in an elective literature class whose growth in reading skill in a few months time indicated clearly that the direct teaching of reading skills is beneficial even for students who ordinarily are considered to be good or excellent readers. In short, it pays to be concerned with skill as well as content.

12. Why Teach Reading in College?

DOROTHY KENDALL BRACKEN

The answer to the question "Why teach reading in college?" may be found in a consideration of the following topics: (1) the reading burden of college freshmen, (2) the reading ability of entering freshmen, and (3) the offerings of college reading courses.

The Reading Burden

Two months ago, in Rhode Island, Robert Aukerman told an audience of teachers and administrators that the twentieth century is not only seeing a population explosion but also a knowledge explosion. Estimates are now being made which suggest that man's knowledge doubles every seven and a half years! Substantiating such a statement under the title, "Information is Snowballing" a recent advertisement read as follows:

> IBM is finding new ways of using computers to cope with the great volume of information that is piling up in science and business today.
>
> One recent IBM development is a computer system that acts as an electronic traffic director for information. From the flood of reports, articles and books received by an organization, the new system selects and routes information to people according to their specific interests and needs. In another area, IBM has developed a prototype information system that can store millions of document pages, yet is able to find and deliver a copy of any page within seconds. IBM scientists are also investigating new techniques for abstracting and indexing technical articles automatically.
>
> New information-handling systems like these from IBM are urgently needed if scientists and businessmen are to make the best use of man's vast and growing store of information.
>
> In the Conference Proceedings of the International Reading Association, 1960, George Schick noted that for the next few decades the challenges to thinking people will be many, in political, social, and professional circumstances. In the colleges, the physicists, chemists, biologists, economists, and engineers are foreseeing tremendous changes with which they will have to cope. These developments concern the anticipated additions to man's knowledge which are emerging with startling rapidity.

Statistics with which we are all familiar indicate the phenomenal expansion of the storehouses of knowledge through increased publication of books and through the growth of libraries. According to the Statistical Abstract of 1961, copyrights were issued in 1940 for 176,997 books, in 1950 for 210,564, and in 1960 for 243,936. Encyclopaedia Britannica's *1962 Book of the Year* reports that book sales increased for the eighth consecutive year and that in 1960 college textbooks increased in sales by 11.8 per cent, a total of 70,155,000 textbooks having been sold in the U. S. As far as libraries are concerned, Keyes D. Metcalf in 1955 reported in his interesting treatise on the Harvard University Library that this particular library was growing by 120,000 volumes per year. He added, "On this basis, the library will have approximately 11,500,000 volumes by the year 2000." Some ten years ago only five or six libraries in America had over a million volumes. During the past six years many others have joined the ranks of libraries with "a million-plus volumes."

The students' reading burden is only partially indicated in a brief glance at the explosion of knowledge and at statistics on books and libraries. Walter J. Pauk[1] says:

> Today's students are confronted with a reading task which differs decidedly from that which students faced only a decade ago. No longer are reading assignments confined to a single traditional text logically organized, replete with footnotes and commentaries, and containing the accumulated knowledge on the subject. Today, the selected text is only the beginning. The student must "run" to stay abreast fast-developing fields and areas by riffling through stacks of journals, magazines, newspapers, theses, bulletins, and microfilms which contain the findings of research from various parts of the world.

Another phase of the student's reading problem is explained by Philip Shaw:[2]

> These teachers (college teachers) have forgotten the significant differences between high school and college: the much longer homework assignments, the harder textbooks, the required deeper comprehension of readings, the greatly increased need for students to listen and take notes in the classroom, the considerably greater freedom of students on the one hand to do additional readings, and on the other hand not to do even the minimum required readings.

Shaw and Townsend[3] elaborate further on the demands made on the college reader. Why is there a textbook problem? "The student reacts quite logically and correctly to the rise in reading difficulty of the college text as contrasted with the high school text." The college text may be several levels beyond his independent reading level. It may actually be a poor textbook, lacking in typographical aids for the students or it may be poorly written or both. These two authors suggest that the college reader must also adjust to his new found reading freedom, that is to say, he suddenly finds himself confronted with problems of selection and choice as well as problems of organization and assimilation. Even though he has syllabi which should serve as guides, these aids vary to such an extent that the student is still very much on his own without immediate direction. Too, he must listen and take notes on lectures which may or may not be related to his reading, and he must correlate his readings and notes as best he can. These reading problems are difficult for freshmen to solve in fields wherein they have some background, but they often become impossible blocks to learning when the student is involved with subject matter which is completely unfamiliar to him.

With the mention of the knowledge explosion and some of the reading problems facing college readers, the question arises: What ability and experience does the student bring to the college reading situation?

Reading Ability of College Freshmen

Byron Van Roekel[4] describes the entering college student in this way:

> The entering college student is a reasonably select individual. He is most likely to be from the upper fifty per cent of his high school graduating class. We know a good deal about his reading ability. We talk about him as an average or as a typical student but recognize there are large differences in reading proficiency within his group. A college freshman who cannot recognize most of the words on a printed page is relatively rare. An unpublished study identified fourteen students with serious limitations in sight vocabulary and word-attack skills from a population slightly exceeding 4,600 freshmen.

Carter[5] has reported that:

> . . . at Western Michigan University, 61 per cent of 1,029 students completing their freshman year in college reported that their high school teachers had provided no opportunity to improve their reading skills. Sixty-eight per cent reported that they had never been taught how to read a chapter effectively, and 70 per cent indicated that they had not been taught to concentrate upon a reading activity. Sixty-four per cent had not been shown how to develop an awareness of problems, and seventy per cent had not been taught how to critically evaluate a writer's bias and use of preconceived ideas.

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[1] Walter J. Pauk, "Basic Skills Needed in College Reading," *International Reading Association Conference Proceedings,* Volume 3, 1958, p. 44.

[2] Phillip Shaw, "College Reading-Improvement Programs of the Future," *International Reading Association Conference Proceedings,* Vol. 6, 1961, p. 49.

[3] Phillip B. Shaw and Agatha Townsend, "Diagnosis of College Reading Problems by Use of Textbooks," *The Reading Teacher,* 14, September, 1960, p. 30.

[4] Byron H. Van Roekel, "Meeting the Demands of a College Curriculum — Reading in Thought and Action," *International Reading Association Conference Proceedings,* Vol. 6, 1961, p. 139.

[5] Homer L. J. Carter, "Effective Use of Textbooks in the Reading Program," *Eighth Yearbook National Reading Conference,* 1959, p. 156.

Hadley[6] estimated that 95 per cent of college entrants lack adequate study skills and reported that a relatively small per cent have reading speeds and comprehension skills adequate for handling all college assignments, while a great proportion are weak in note-taking. Halfter and Douglass[7] carefully tested and studied their entering freshmen for eight years. As a result of their studies they concluded that two-thirds of their entering college freshmen lack reading skills required for academic success.

All entering freshmen at Southern Methodist University are given the Cooperative English C2 test. In the fall of 1961, test results showed that at the 20th percentile and at the 80th percentile the S.M.U. freshmen were four points above the national norm. But the individual student is more important than the "average" freshman or the national norm. Students whose vocabulary scores were above the 55th percentile served as an interesting study when vocabulary scores were compared with speed scores. Assuming that students with high vocabulary scores are those who would be classified roughly as "good" students, it was interesting to note that 49.73 per cent of these students, scored 15 points (or more) lower on speed than on vocabulary. When the comprehension scores of these students were compared with their speed scores 38.72 per cent of those with scores above the 55 percentile had a speed percentile of 15 points, or more, below their comprehension scores. (When the vocabulary percentiles were compared with the speed percentiles of *graduate students,* the percentage went up to 58 per cent in indicating those who scored 15 points, or more, lower on speed than on vocabulary.)

Aims of College Reading Courses

Colleges across the nation have seriously considered the needs of college students and have designed programs for helping them improve their reading skills. During the 1950's six surveys of college reading programs were made and reported in the Yearbooks of the National Reading Conference. By the mid-1950's almost three-fourths of 418 institutions replying to one questionnaire[8] reported reading programs. Phillip Shaw[9] summed up the situation in 1961 by saying, "From only a few colleges offering reading-improvement programs before 1950, the number affording such a service a decade later has been estimated at 400 out of a total of 1900 colleges in the nation."

Aims of college reading programs vary from school to school, but a survey of the literature shows the major trends and indicates what reading authorities think college reading programs should include. Last year at the IRA annual meeting remedial and developmental reading were defined.[10]

> A *remedial* need is a gap between a student's achievement and potential. A *developmental* need is a gap between a student's developed ability to meet the demands of the past and his ability to meet the more challenging demands of the present. Only a limited segment of the population needs remedial instruction. However, all of a population can benefit from developmental instruction.

As the result of knowing the tremendous reading burden the college student must carry and knowing something of the abilities he brings with him to meet these new reading challenges, many reading specialists think that time is best spent in developmental reading classes when students are given specific help in

1. reading and organizing their college textbooks
2. organizing material from several books
3. relating their outside readings to their textbooks
4. relating lectures to readings
5. improving listening skills
6. improving note-taking
7. practicing better study skills
8. becoming a flexible purposeful reader
9. improving both general and specific vocabularies
10. improving ability to comprehend and interpret completely, to gen-

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[6] L. S. Hadley, "New College Students Lack Study Techniques," *School and Society,* LXXXV (November 9, 1957), p. 353.

[7] Irma T. Halfter and Frances M. Douglass, "'Inadequate' College Readers," *Journal of Developmental Reading,* 1 (Summer, 1958), p. 42.

[8] Oscar S. Causey, "College Reading Programs in the Nation," *Fifth Yearbook Southwest Reading Conference,* 1956, p. 135.

[9] Phillip Shaw, "College Reading-Improvement Programs of the Future," *International Reading Association Conference Proceedings,* Vol. 6, 1961, p. 48.

[10] *Ibid.,* p. 50.

eralize, and to conclude
11. improving ability to infer and read critically

Emory Bliesmer has summarized the research on college reading for the yearbooks of the National Reading Conference (published by Texas Christian University Press). In each of these summaries special sections are devoted to descriptions and evaluations of college programs.

William Eller[11] reported:

> While there are a few investigations which have challenged the value of college reading instruction, there are a great many which have given evidence of the worthwhileness of this training. One of the most carefully planned experiments is that reported by McDonald who compared groups of students who had taken the reading course at Cornell University with matched groups who had not taken reading training. McDonald found that students who had taken the reading instruction had a higher grade point average than his control group and were less likely to drop out of college than were either the controls or their classmates not involved in the experiment.

Several other studies draw the same conclusions.

Finally, let us think carefully on the questions Bruce Brigham[12] asks—and consider his answer.

> . . . Will our efforts improve the abilities of these students to make sound decisions based on an objective and thorough appraisal of evidence? Do we stress enough the importance of applying ideas to action? Each of us must answer such questions for himself, but I believe this: if our purpose is simply to get more people to read more trash in less time, or to make it possible for more students to turn enough pages of required readings to get through an academic mill, we are short-changing our students, society, and ourselves.

13. *Progress and Poverty* in College and Adult Reading Programs

GEORGE B. SCHICK

For the first three words of the title of this discussion, direct indebtedness must be acknowledged to the author of a classic in economic literature, Henry George, whose *Progress and Poverty* created great interest and controversy in the decades following its publication in 1879. For the economist was appalled at the evidence of enormous progress and prosperity for the few, with poverty everywhere apparent among the many. This paradox of poverty in the very midst of progress he sought to solve by a single tax on land and sweeping reforms in the control of real property. Nearly a hundred years later, it is now realized that George's solution was far from complete, that his cure for this paradox was grossly oversimplified. Nevertheless, it is, I think, useful and suggestive to take his fundamental concept—that of plenty accompanied by the presence and neglect of scarcity—and to consider its possible applications and implications for the status of college and adult reading programs as they are now prevalent.

Of progress and plenty in the areas of adult and college reading-improvement programs, there can be little doubt. In awareness of and interest in the entire problem of reading proficiency, the past twenty years have shown remarkable advancement. Since the orbiting of Soviet satellites, Rudolph Flesch, and Arther Trace's writings on Russian superiority in teaching young people to read (1), public apathy is demonstrably far less than it was, say, in 1950. The climate for those of us interested in reading improvement is thus vastly improved. Yet it is also a truism that mere popular interest is far from sufficient. The vast majority of voluble parents, intelligent adults, and college students generally have only the haziest notion of what is entailed in the process and methods of improving reading skills. Hence reading specialists have a continuing and paramount obligation to educate and inform the American public—and adult and college students specifically—about the opportunities available in courses designed to foster proficiency in reading, about the actual practices which constitute good instructional approaches, about the little-known fact that improvement in reading requires much more than a stopwatch and a piece of printed material. So long as just one of our colleagues in another field of specialization or a single outspoken citizen has the habit of asking, "Why should *anybody* want to read faster?" or "Why can't everyone learn to read well enough by the time he leaves the seventh grade?"—just that long shall reading specialists have to continue to display forthrightness and endless patience coupled with energy in explanation of the complexities of developing reading skills to the utmost. Progress? yes, undoubtedly; poverty? well, if not poverty, then at least far-reaching unawareness of the techniques best employed to develop maturity in reading. Indeed, it is safe to assume that this process of educating the public will have to persist throughout the 1960's and 1970's—perhaps even the 1980's.

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[11] William Eller, "Future Trends in Materials and Methods for College Reading as Suggested by Current Research," *International Reading Association Conference Proceedings*, Vol. 4, 1959, p. 200.

[12] Bruce Brigham, "Utilizing Various Approaches in College Programs," *International Reading Association Conference Proceedings*, Vol. 4, 1959, p. 54.

In addition to this general if unenlightened public interest which is manifest in news organs, popular magazines, and Sunday supplements, as well as in professional articles and published data, progress may certainly be heralded in the development of reading centers and facilities for reading instruction in colleges and adult training programs during the past decade or two. In 1950, for example, the number of college and adult classes designed specifically to improve reading skills scarcely totaled fifty. Today, however, there are literally hundreds of college classes in reading improvement and scores of opportunities for adults to secure reading training in the United States. Quantitatively, growth has been both hearty and gratifying, if not almost phenomenal. But as the numbers continue to increase from dozens to hundreds, and now to thousands, perhaps to tens of thousands of collegiate and adult students, this quantity becomes frightening, or, at the very least, indicative of the need for stock-taking, reappraisal, and analysis of purposes, techniques and methods, materials and devices, ultimate results.

Teacher Training

Faced with these thousands who will come seeking instruction in reading improvement, our first concern must be to provide adequately trained, intelligent, and resourceful teachers. At present, the entire academic world is confronted with this aspect of poverty which accompanies progress. In reading alone, the demand for well qualified instructors exceeds the supply perhaps as much as tenfold. It is, therefore, of the utmost importance for reading specialists to provide well-planned instructional opportunities for the training of reading teachers (2). To this end, scores of additional courses in methods and techniques and hundreds of in-training facilities will have to be forthcoming within a decade or two. This is a requirement basic to the needs of the next few years and fundamental to adequate continuation of the progress already made in reading-improvement practices.

Now then, what resources are at hand for intelligent preparation of these prospective teachers of reading improvement on the college and adult levels? Fortunately, a code of standards and ethical practices has been formulated and established by a forward-looking committee of the International Reading Association which sets forth generally the qualifications to be expected of adequately trained teachers of reading (3). The specifics of these minimum standards need not here be detailed; yet they demand careful study and continued application as the need for new instructional facilities continues to be felt. Indeed, these standards must be widely understood and wisely disseminated in all circumstances under which teachers are to be instructed. Such a code of standards provides ample evidence of progress in the profession of teaching reading. Yet there is much to be done in the application of these principles to particular situations and to specific courses of reading improvement.

Instructional Goals

For example, the very significant matter of basic purpose in offering a course of reading instruction needs to be thoroughly and critically reconsidered. To inform prospective instructors of reading that they are to teach in such fashion as to improve the proficiency of their students' reading is admittedly unsatisfactory, although quite true. As Arthur McDonald and James A. Byrne noted a few years ago:

> The journals devoted to reading instruction reflect the controversy on methods, techniques, and the use of mechanical aids and audio-visual devices. Comparatively few

> articles, however, are devoted to the presentation of goals and the objectives of reading instruction. This is particularly true for reading instruction at the college and adult level (4).

The announced goals of particular reading programs vary from simple, bare statements like the aim of "increasing reading rate without loss of comprehension," to such extensive objectives as training for "competence in judging the relevance, worth, and soundness of the author's reasoning; judging the effectiveness of his presentation; applying ideas gained from reading to the solution of problems; integrating ideas from reading with previous experience to attain new insights, clearer understandings, and rational attitudes." A few programs even go so far as to attempt to "aid students to work up to their capacities and effect a good social adjustment in college and all their lives" (5). Diverse as these professed goals may appear, there is even greater variety in the actual day-to-day routines of courses and in objectives which seem largely to go unexpressed. Teachers of reading programs adopt specific methods and techniques to attain their objectives; not always do these practices fulfill the aims as stated in a course syllabus or description of the program. In fact, the difficulty is that until now, the goals of adult and college reading programs have been set forth largely in broad, general terms, with all too little reference to what the teacher does or what the student learns. Hence it is high time to reassess the objectives of good teaching practices in reading instruction, to analyze the goals which can actually be achieved in reading improvement programs, and to come to some clear, specific statements of intent.

In the midst of all this diversity of theory and practice, some unity must be made discernible so that new reading teachers may be provided with definite and attainable goals toward which they may direct their efforts. These goals must be broad enough to encompass the particular aims of a program in a specific college or adult situation; yet they must also be sufficiently realistic and practical to enable the teacher fully to bring about the results desired. With a well-conceived set of minimal standards and the wealth of experience and published data on successful programs now available, surely it should be possible to set forth objectives of reading courses for college and adult personnel that are not only theoretically sound but also both feasible and appropriate.

Improvement of Reading Rate

Another major aspect of reading proficiency programs in which progress can readily be recognized and actually measured is that of improvement of rate. Prospective teachers of reading may be assured that, with the techniques and instructional aids at hand, a gratifying increase in students' reading rates is the expected outcome of good, intensive training. This very matter of speed presents some bewildering circumstances, however. Even the terminology employed to describe the phenomenon of a student's gain in speed of reading can be puzzling; such designations as *speed of comprehension, reading rate, rate of comprehension, reading-proficiency index* are all directly concerned with numerical indications of speed in words-per-minute, but the users of these terms frequently suggest that their expression carries more meaning than just speed in words-per-minute. Perhaps the difficulty in this respect lies partly in the fact that far too much attention is still given to speed alone, without full consideration of the whole complex matter of reading proficiency. Perhaps also the fact that speed may be stated in satisfyingly precise figures like 255, 579, or 712 is likewise a source of delusion. The truth is, of course, that a bald statement to the effect that Student A read initially at 265 wpm, or that he rose to a speed of 672 wpm is not only misleading but indicative of gross over-simplification. The beginning teacher of reading must be cautioned repeatedly against this fallacy. For rate, comprehension, and even vocabulary improvement are essentially relative matters.

No experienced teacher of reading needs to be reminded that speed is dependent upon several factors, and particularly upon the purpose for which the selection is being read, the extent of a reader's previous knowledge of the subject matter, the degree of difficulty of author's style and phraseology. All these elements and more enter into the computation of a mathematical designation like 532 wpm. Nor will multiplying speed in seconds by the percentage of correct answers on a ten or twenty-question comprehension check serve in any respect to clarify the issue, as I see it. College and adult students in reading programs must be made to realize that mature readers have different rates of reading for different kinds of material, for different purposes, at different times, under different external or subjective conditions. And prospective teachers of reading must be thoroughly aware of all these contingencies so that they may understand fully that a single test-result as expressed by 378 wpm, for example, is merely a practical way of indicating a score in a given situation for purposes of comparison and contrast. After all, no specialist in testing or guidance is content to have his final judgment of a person depend upon just one standardized test. Instead, he utilizes instruments and devices upon which to base his conclusions, and he expects continually to revise his estimate as he acquires additional data. Nor does the reading specialist dare to rely upon a bare statement of speed in words-per-minute, if he comprehends fully his responsibilities as a reading-teacher, and if he is to give his students adequate instruction in reading improvement.

Hence it may be said that progress has been definitely achieved in increasing the speed with which students can be taught to read solid material. Moreover, it is gratifying to note in Ralph S. Acker's report in *Education* for March, 1962, that in programs provided in military, government, and business agencies "there is a definite trend toward reducing the emphasis on mechanics of reading and increasing the emphasis on comprehension, vocabulary, adaptability, flexibility, and the reader-writer relationships" (6). But the significance of rate and its relationship to other major components of the reading act, notably comprehension, is yet to be fully assessed and adequately represented in many college and adult reading facilities.

Comprehension and Flexibility

If misconceptions about speed in reading are common today, even less consideration seems to have been given to the very important element of comprehension. And just as a single figure for rate is both misleading and unrealistic, so too is the statement that Student A has achieved a score of 70 per cent or 80 per cent comprehension on a reading test far from sufficient or meaningful in terms of determining genuine reading improvement. The reading specialist has long since learned, but the prospective instructor in reading must be repeatedly told, that comprehension is not an absolute like zero degrees Centigrade or the boiling point of water at sea level. For example, Student A took a comprehension test and made 80 per cent on an article dealing with life in the tropics of the South Pacific; Student B, however, made a score of only 50 per cent on the same material at a much slower speed. Clearly Student A was shown to be a much more proficient reader than Student B. But the truth is that Student A had taken a survival course during his military service and had learned a great deal about conditions in the tropics. Previous knowledge obviously aided Student A greatly in this one exercise. To be sure, averages taken of the scores of several tests of this nature would tend to reduce the margin of error as seen in this particular result for Student A. But the fact remains that a single score like this is too often accepted as a safe and reliable measurement of reading comprehension. Not only previous knowledge but reader's interest, his purpose in reading a specific article, his physical well-being—all these and other factors enter into the reading act. Moreover, reading specialists must train their new teachers to conduct exercises in skimming, scanning, and other particular purposes for which the mature reader seeks information—general or very specific—from various pieces of printed matter.

Finally, the ultimate goal of flexibility in reading must be made amply clear so that neophyte reading-teachers will realize, at least in part, that effective reading-improvement courses provide opportunities for students to develop skill through practice in reading different kinds of material with different ends in view. As Ralph Williams states in a shrewd summing up of this matter, "I consider improvement in comprehension and versatility to be as important as improvement in speed" (7).

Progress in the development of methods for vocabulary growth, in the production and availability of valuable printed, mechanical, and audio-visual aids, in the study and devising of new and improved testing instruments, and especially in the adaptation of the techniques of programmed learning to the whole complex matter of teaching reading improvement deserve detailed consideration also, were there time and space here. For a very great deal has been achieved in these areas within the past decade.

But it must be fully realized that with all these advancements in techniques, in instructional aids, in understanding of the many elements that go to make up proficient, mature reading, there is much yet to be accomplished. Progress is everywhere apparent. So too is the continuing need for research, for the application of what is now known to that which still remains to be determined. If the ever-increasing numbers of college and adult students in reading improvement classes are to be well trained, new teachers must be thoroughly grounded in all these complexities of the reading act.

Reading specialists may now take pride in the tremendous growth of their professional knowledge and skill. But in the years to come, knowledge must beget knowledge and understanding, if the alarming specter of poverty amidst progress is to be dispelled.

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2. See Ruth Strang, "Preparation for the Teachers of Reading," *Journal of Developmental Reading*, IV (Autumn, 1960), pp. 53-57.
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14. Developing the Small College Reading Center

DONALD E. CARLINE

Are the names of modern college reading programs having a detrimental influence upon children's reading? Have we become so obsessed with "program titles" and "pathological techniques" that we have lost perspective and are too little concerned with the quality of the teaching of reading in the classroom?

Most teachers and children are concerned not only with correcting problems in reading, but also with preventing problems from developing. They need a place to which they can turn for service enabling them to work with enthusiasm, confidence, and economy of time; a place so named that the connotations will not create for them a distorted image of its function. Teachers need a place which performs the important task of keeping them professionally alert in reading and in contact with their college by utilizing the services which are rendered.

Such a place should assist children with problems in reading and students who need improvement in reading and study skills for college course work. But further, services should be extended to prospective teachers and those already teaching, providing further practical suggestions and help for improving reading instruction in the public schools to prevent reading disabilities and increase reading efficiency.

The name, Reading Center, represents a trend away from the emphasis on "clinic" and "laboratory." Its function is primarily to help teachers, both present and future, to become skilled in handling the developmental concepts of reading in the context of the total school program and in the larger context of a democratic society which demands literacy. Parents and children are also encouraged to make use of this service at any time, as well as when reading deficiency has reached a critical stage.

In fulfilling these needs, four essential services are recommended for students and those already teaching. These services are:

(1) A developmental and study skills reading program for high school and college students

(2) Analysis of reading disabilities

(3) Consultative services to schools in the areas of testing, teaching methods, materials, and program organization

(4) A reading materials distribution center

Reading Improvement and Study Skills Program for High School and College Students

A program for developing effective study habits should involve special individualized planning; no one pattern will apply to the needs of all. The different curriculums, ability patterns and reading problems of individual students should be given special attention. The students, high school as well as college, should be given every opportunity to study their own growth in the reading improvement program. Assorted materials and reading rate machines can be used to develop speed and comprehension. Constant practice is essential for continued success in reading and the reading room should be available at all times

As a further aid to college students, a tutoring program can be instituted in conjunction with the Department of Secondary Education. Juniors and seniors in secondary education can provide tutoring in courses which they eventually hope to teach. These students will gain actual teaching experience in their field of specialization and learn valuable techniques for reading and study skills on the secondary and college level. The underclassmen receiving this special help improve their skills in reading and studying. They also benefit by gaining knowledge and confidence in a course in which they had experienced difficulty.

Analyzing Reading Disabilities

Data from many sources should be used as a basis for a reading analysis: physical examinations, tests of vision and hearing, standardized test scores, personal history data, and careful observations of pupil performance during an extended reading lesson. The results obtained from intelligence tests are very helpful, because it is important to know whether the retardation in reading is part of a general mental retardation or whether it is the result of other factors.

In conceptualizing a reading problem, standardized tests will provide only a beginning for analyzing the reading problem. They reveal a reading grade level score without disclosing the cause of the reading disability. A reading problem should be assessed with respect to two factors: (a) the quality of understanding which the child reveals and (b) the degree of competency with which he handles word recognition.

A reading problem should be described in terms of the relative degree of discrepancy which exists between the adequacy of the understandings and the complexity of the recognition vocabulary. The greater the discrepancy, the greater the reading handicap.

Certainly the biggest task, and incidentally the most difficult one, is to provide each youngster with an understanding of how to seek pleasure and satisfaction in reading, to gain confidence in himself so that he will eventually become a "reader" rather than "one who can read."

At the completion of an analysis, a report should be sent to the parents, the classroom teacher, and the principal. The causes of the reading disability should be explained and recommendations that are possible for the teacher and parents to carry out should be suggested.

Consultative Services to Schools

It is essential for the teachers to know what adjustments should be made for children who have received a reading analysis at the center. They also need to know what methods and materials will be required to help the child with the disability. This is important because parents should be given suggestions on how to work cooperatively with the teacher. Whenever possible the reading specialist should confer with the teacher and the parents; thus the teacher and the parents can contribute to the task of improving the child's reading.

Talks, demonstrations, panel participation are ways in which teachers learn about the different phases of reading programs. Often the consultant will need to travel to the school to provide help in several areas such as: testing programs, diagnostic services for students with reading disabilities, demonstrations of reading analysis, teaching methods, class organization, and discussions.

To assist further students and teachers, a special reading program may be provided during the summer for children who need personal attention. Many children may be recommended for this program through the Reading Center. Other children may be placed in the program because of their critical need for special reading help and can be recommended by their principal or teacher. A summer program can be centered around the practice of assigning one teacher to one pupil. The two work together for one hour a day for a single summer session of five or six weeks. The teacher can receive special training for graduate work which is designed specifically for this kind of teaching-learning situation. This learning experience can be beneficial to both the teacher and the child. It will provide children with approximately twenty-five to thirty hours of individual help, far more personal help than they normally receive in reading during a regular school year. The teacher also learns new methods and techniques from this special teaching and can profit greatly when employing them in his own classroom.

Materials Distribution Center

Teachers are always interested and willing to learn about new methods and techniques of teaching reading. They want to keep themselves informed of recent research findings and new materials available. Despite this willingness, however, some are unable to keep up with the advancements printed in the educational journals. Therefore, through a Reading Center materials can be distributed for this classification and can be made available in single copies to teachers upon request. The materials may consist of bibliographies, articles, and work that students of the college have done in the field of reading. Proper permission from various authors and professional journals should be required for duplication of professional articles.

Along with this service, help may be given to teachers requesting aid to improve their understanding of the problems involved in teaching reading. Various materials will make it possible for them to organize better reading programs, to prevent reading disabilities from occurring, and to increase continuously the reading abilities of their pupils in order that they may be competent to use reading as a means to personal growth and enjoyment as well as a tool for learning.

Summary

Special help for teachers and children in the area of reading can be provided through a Reading Center. The Center should be available to all who desire its service. Reading ills should not be necessary before children can receive help. Teachers will no longer wait until they have children with reading disabilities before they seek aid. This philosophy of the development of a Reading Center agrees more nearly with that of Benjamin Franklin, who said, "'Tis easier to prevent bad habits than to break them."

If we can evoke in children a response beyond their immediate need; if we provide the opportunities to share with teachers new methods and materials which are inspiring; if we organize to accomplish these things which sound advantageous and welcoming; we will have a Reading Center.

15. Trends in Identifying and Diagnosing Retarded Readers

H. ALAN ROBINSON

Identification is the screening and selection of pupils who are in need of, and can probably profit from, treatment of their reading disabilities. Identification usually involves the study of results on standardized reading tests, informal reading tests, intelligence tests, listening comprehension tests, and teacher observations. Identification does not involve ascertainment of the exact nature of the difficulty; it merely announces the existence of the disability.

A review of the literature evokes the conclusion that there is an increasing tendency to use the results of group and individual intelligence tests in juxtaposition to reading tests in an attempt to determine reading retardation. This is certainly more realistic and a step beyond the use of grade level or chronological age as a criterion of retardation. Investigators (26; 31), however, caution that properly assessing capacity is a major problem and intelligence tests are only crude guides.

At the present time, individual intelligence tests (especially the WISC) appear to make the most accurate measurement. In general the severely disabled reader obtains a considerably higher score on the Performance Scale than on the Verbal Scale (2; 16; 23). This concept has led a number of investigators to use the non-verbal parts of group intelligence tests with retarded readers. Although such a plan seems feasible, there are some doubts about the comparability of verbal and non-verbal results. One new group test[1] appears to be attempting to parallel more closely non-verbal items with verbal concepts. The test is still in experimental form.

Another trend in the measurement of capacity is the use of group intelligence tests that have both verbal and non-verbal sections or items. This may prove to be a satisfactory procedure although care must be exercised in test choice. One new test[2] purports to use both verbal and non-verbal items in order to reduce "social and cultural bias." An intermediate form of this test contains seven purely non-verbal items out of 110 items.

Diagnosis

Diagnosis, which must always follow identification, ". . . means a careful study of the condition to determine its nature and find out about its causation, with the aim of correcting or remedying the difficulty."[3] It is also important that the diagnostician assess strong points so that treatment may capitalize on specific strengths while attempting to overcome specific weaknesses.

There is a trend toward greater depth in analyzing test results. There is increasing awareness of the concept that the base must be broadened — that diagnosis of reading failure goes beyond the measurement of reading achievement alone. There is more of a realization that "tests provide only data upon which to base a diagnosis . . . they give indications which may serve to sharpen and clarify the judgments teachers make on the basis of their experience, training, and understanding."[4]

Outside of research studies and clinical situations, there does not seem to be a trend, however, toward making use of diagnostic procedures in practical school situations. As one reads reports of reading programs for retarded readers, the identification process is considered to be a diagnostic process. Pupils are grouped according to reading levels and then treated in a prescribed period of time, with prescribed materials and methods. The treatment of retarded readers appears largely to be based on the teacher's training and knowledge regardless of the outcome of the diagnosis *if* a diagnosis is made at all.

We learn from research that diagnosis is essential and that diagnosis loses its value if treatment is not suited to the specific needs and learning methods of the pupils involved. During the past decade, especially, research has demonstrated that we have much yet to learn about diagnosis. We are still fairly certain, as H. M. Robinson indicates, ". . . that no single anomaly is responsible for reading difficulty" (26). But, there is evidence gathered by investigators working in a number of disciplines, that a specific type of weakness or a group of closely-related neurophysiological weaknesses may play an important role in severe retardation (2; 4; 5; 7; 9; 11; 12; 13; 15; 17; 18; 22; 23; 27; 29; 30; 34).

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[1] A.C.E.R. Test WNV., Australian Council for Educational Research, 369 Lonsdale Street, Melbourne, Australia.

[2] American School Intelligence Tests, Bobbs-Merrill Co., Inc., Indianapolis 6, Indiana.

[3] A. J. Harris, *How to Increase Reading Ability*, Fourth Edition. New York: Longmans, Green and Co., 1961, p. 228.

[4] Denis Baron and Harold Bernard, *Evaluation Techniques for Classroom Teachers*. New York: McGraw-Hill Book Co., Inc., 1958, p. 3.

Neurophysiology

At this point we do know that major defects or injuries to body organs and the nervous system can cause difficulties in reading. We are not sure of how extensive the damage must be. Rabinovitch (23) indicates that probably the large majority of retarded readers have *primary retardation,* which he defines as impaired capacity without a clear picture of brain damage. He characterizes this as inability ". . . to deal with letters and words as symbols, with resultant diminished ability to integrate the meaningfulness of written material." Preston (22), thinking along the same lines, suggests a single fundamental defect which shows itself in reversals, mirror-writing, mixed hand-eye preference, spatial disorientation, poor visual-auditory memory and discrimination, defective perception of figure-ground relationships. Other investigators (5; 7; 9; 13; 17; 18; 29; 30; 34) have been concerned with related concepts.

There seems to be general agreement that the diagnosis of minimal brain damage is difficult (5; 9; 22; 23; 24). "The problem appears to reflect a basic disturbed pattern of neurologic organization" (23) rather than an easily measurable static condition. Very frequently, in these cases, the usual clinical neurological examination is negative. Reitan and Klove consider a completely detailed neurological examination ". . . of crucial significance in patients with inconsistent or equivocal findings" (24). Harris suggests that difficulties in binocular coordination ". . . may be symptomatic of neurological defects or deviations that may be fundamental to the learning problem" (12).

A number of investigators (4; 7; 8; 11; 12; 18; 31; 33; 34) have been concerned specifically with visual and auditory perception in relation to poor reading and/or neurologic problems. Goins (8) developed tests of visual perception and found that successful reading depends on the ability to recognize total configuration and discriminate the parts. Kephart (18) found that slow learners could recognize the total configuration but got into difficulty with word analysis because they couldn't break down something that did not, for them, have parts to begin with. Harris (12) indicated the need for more accurate tests, but suggested a relationship between the problems in eye coordination, visual perception, and brain injury.

Wechsler Intelligence Scale for Children

For the past ten years investigators have concerned themselves with the profile of subtests on the WISC in relation to retarded readers (1; 3; 6; 10; 14; 16; 21; 25; 28). Although there have been some differences in results, enough similarity seems present to further investigate the function of the profiles as diagnostic tools.

The findings appear to show more agreement in the profile of weak areas than in strong. Coding and Arithmetic scores are consistently low with some tendency for weakness in Digit Span and Information. Areas most often high are Picture Completion, Picture Arrangement, and Block Design. Dockrell (6) hypothesized that the low score in Coding might be due to the close resemblance between it and reading and writing. Good visual discrimination and memory are needed. M. S. Sheldon and Garton (28) felt that the Coding subtest has some similarity in process to word recognition. Kallos, Grabow and Guarino (16) suggested that "retarded development of motor-visual skills, such as those involved in Coding, may be a primary cause of reading disability."

These investigators thought that the low Information and Arithmetic scores could ". . . reflect variables in the home and school environment which promote reading disability (16)." Neville (21) felt that these subtests are related to school-type tasks and limited ability to concentrate. He also suggested that the high scores were made on subtests somewhat removed from formal learning.

Diagnostic Tests

There appears to be little doubt that auditory discrimination and blending are positively related to reading achievement, especially in the lower grades (4; 7; 33). There is a research trend, not yet visible in school reports, toward using the results of such tests of auditory discrimination, Wepman tests of auditory discrimination, and possibly the auditory blending test by Roswell and Chall, as bases for differentiating reading instruction. Wepman (33) suggests grouping visual and auditory learners separately at least at the beginning of instruction. Chall (4) suggests the use of the auditory blending test to separate those with word-analysis problems from those with comprehension difficulties.

When McCullough (19) found that children apparently knew letter sounds but had difficulty applying the knowledge, she designed a test in an attempt to pinpoint deficiencies. The McCullough Word-Analysis Test (Ginn and Co.) is now in an experimental edition. It is designed for individual or group diagnosis for grades four through college level. McCullough feels that this test does a more extensive diagnostic job than those now available and provides clear cross-references among subtests to aid in classifying types of difficulties.

H. M. Robinson indicates that the new Gray Oral Reading Tests (Bobbs-Merrill) will be ready within a year. There will be three or four comparable forms and four comprehension questions will accompany each paragraph. Norms will be available for grades one through twelve and later for college freshmen.

S. Taylor reports the beginnings of experimentation on an Ocular-Motor Test (Educational Development Laboratories). Picture materials will be placed on targets and the activity of the eyes of beginning first graders will be photographed on The Reading Eye, an eye-movement camera. These pupils will be followed through the first two years of school. The investigators will be looking for accuracy and direction of fixations, general mobility of the eyes, efficiency in moving laterally and vertically, accommodative flexibility, and the general pattern of visual attack.

Classroom Emphasis

Obviously, the classroom teacher or reading consultant cannot complete a diagnosis for the severely retarded reader without the help of other specialists. But following a preliminary diagnosis, further study is always necessary. The school personnel working with the severely retarded reader daily must continuously appraise through every means possible.

One means of appraisal used rather widely today is the informal reading inventory. The inventory is a useful tool in diagnosis. Its use as a "level-finder" alone is, however, almost as limited as a lone score on an achievement test. As demonstrated in so many ways, and reported recently by Murphy (20), children may achieve similar gross scores or levels and differ markedly in specific skill areas. The individual, his specific cluster of needs, and a suggested program of treatment must be considered in any diagnostic procedure of significance.

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16. Reading Our Language Patterns: A Linguistic View—Contributions to a Theory of Reading

CARL A. LEFEVRE

Reading theory is of interest to all of us. My presentation here is adapted from discussions of reading theory in a book-length manuscript I have just completed writing in collaboration with Professor Donald Lloyd. The title of the book is *Linguistics and the Teaching of Reading.* Publication plans are still tentative, but we hope the book will be made available in 1962. Persons who have previously been interested in my work in linguistics and reading will find in the following remarks a summary of my present thinking. My earlier suggestions were first reported in talks at two national conventions, followed by publications in the *Journal of Developmental Reading* and the *I.R.A. Conference Proceedings.*[1]

Reading theory generally does not concern itself *rigorously* with language; instead, it concerns itself largely with psychological matters, with visual perception especially. The question is, visual perception of what, exactly, if not of the graphic counterparts *in printed form* of meaning-bearing language patterns? To comprehend printed matter, the reader must perceive entire language structures *as wholes*—as unitary meaning-bearing patterns. Short of this level of perception, he simply does not perceive those total language structures that alone are capable of carrying meaning; short of this level of perception, he may perceive individual words as though words were meaning-bearing units in themselves—one of the most serious of all reading disabilities—or he may group words visually in structureless pattern-fragments that do not and cannot bear meaning. What he does not do is read *total language patterns for total comprehension of meaning.* My basic assumption is that reading must be regarded as a language-related process; that reading must be rigorously studied in relation to language. Today, rigorous study of language means structural linguistics.

Current reading methods and materials reflect little or no acquaintance with the structural linguistic rationale. This basis of twentieth century advancement in language scholarship was foreshadowed in Sapir's *Language* (1921) and then catalyzed in 1933 by Bloomfield's *Language.* This is thirty to forty years ago now. Since 1933, the scientific study of languages, including American English, has laid the foundation for a new approach to language learning, both native and foreign. In essence, structural linguistics is cultural-anthropological: language is studied objectively and systematically as a learned arbitrary code of vocal symbols through which men in a given culture communicate with each other, interact, and cooperate.

It makes little difference whether a language has an ancient and honorable tradition of literacy, or is simply the speech of a people who have never developed a writing system. Language is viewed as a vocal symbol-system from which a graphic system may or may not have been derived. Handwriting and print are seen as secondary, derivative codes of visual symbols that reflect the basic language learned before formal schooling begins. This is a position of far-reaching consequences for education, pointing toward new theories of language learning and teaching, new methods, and new materials.

But linguists cannot do this vital educational work; we must do it ourselves. Professionally qualified, experienced teachers must study linguistics and discover for themselves how to apply new knowledge to old problems. We must teach ourselves and we must teach the teachers—teachers in being and teachers on order—for a more effective attack on the development of literacy in our schools. This whole range of activity is the professional concern of teaching, not of linguistics. Few linguists are capable language arts teachers; and they have problems of their own, including narrowness and insularity. Let us solve our problems, let them solve theirs. In the meantime, their discipline has much to offer that we need: it is there for the taking. Let us make full use of it.

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[1] Carl A. Lefevre, "Reading Instruction Related to Primary Language Learnings: A Linguistic View." A paper read at the Golden Anniversary Convention of the National Council of Teachers of English, Chicago, Illinois, November 25, 1960. Published in *The Journal of Developmental Reading,* Spring 1961.

Carl A. Lefevre, "Language Patterns and Their Graphic Counterparts: A Linguistic View." A paper read at the 6th Annual Convention of the International Reading Association, St. Louis, Missouri, May 6, 1961. Published in *Changing Concepts of Reading Instruction,* International Reading Association Conference Proceedings, Vol. 6, 1961.

As for myself, I am primarily a humanist rather than a linguistic scientist, though I do not feel that science is alien to the humanities. On the contrary, science is one of the humanities—or should be. As a scholar-teacher of English, I have made it my professional business to apply relevant findings of structural linguistics in teaching language and literature to students of all ages. I have also tried to determine just what and how much linguistic knowledge of English is needed by persons who introduce the young to literacy. In language arts methods and other college English courses I have made it a point to integrate linguistic knowledge with the more traditional content. Structural linguistics can enrich as well as clarify many areas of the language arts.

A number of broad substantive and methodological assumptions underlie my approach to a theory of reading. Two basic substantive assumptions are as follows:

1. Language is human behavior.
2. Each language has its own independent and unique structure; it requires its own independent and unique description. This structure or system, taken as a whole, is the grammar of the language.

Four basic methodological assumptions are as follows:

1. Language may be studied objectively and systematically.
2. Objective study of a language yields an accurate, orderly, comprehensive description of the language system, or structure.
3. Structural linguistics is not just another nomenclature for "the parts of speech" of traditional grammar, or another way of parsing and diagramming sentences. It is an entirely new way of looking at language, of sorting out the data, of classifying findings.
4. Structural linguistics leads to new data, new knowledge, new insights, new understandings.

Such broad substantive and methodological assumptions have illuminated my classroom experience as a teacher of literature and the skills of literacy—*and as a teacher of teachers.* They have led me to close study of basic linguistic principles and data, and eventually to the view of reading summarized in this presentation.

Precise linguistic principles are embodied in the basic Smith-Trager system of language analysis at three levels: (1) phonemes, (2) morphemes, and (3) syntax.

1. *Phonemes.* Phonemes are the basic sound units of language; a phoneme is the smallest class of significant speech sounds. The "segmental" phonemes are the nine simple vowels and the twenty-four consonants of American English. Linguists also refer to four levels of stress, four levels of pitch, and four junctures or terminals, as phonemes. The total number of phonemes is thus forty-five.
2. *Morphemes.* Morphemes are the basic meaning-bearing units of language; a morpheme is an indivisible language element patterned out of phonemes. Morphemes include word bases ("roots"), prefixes, suffixes, and inflections. A "free" morpheme may pattern by itself in larger language structures; a "bound" morpheme must combine with another morpheme. Such single words as *cat, go,* and *green* are examples of free morphemes; *in*-and-*here* in *inhere* are examples of bound morphemes.
3. *Syntax.* Syntax includes the various patternings of morphemes into larger structural units: noun groups, verb groups, noun clusters, verb clusters, prepositional groups, phrases, clauses, sentences.

Moreover, sentence-level utterances in American English make use of four signaling systems, listed here in descending order of importance: (1) intonation, (2) syntactical function order in sentence patterns, (3) structure words, and (4) word-form changes.

1. *Intonation.* Intonation is the generic term for significant and distinctive patterns of pitch, stress, and juncture. Comprising intricate patterns of obligatory and optional features, intonation is perhaps the least understood signaling system of American English.
2. *Syntactical function order in sentence patterns.* There are possibly no more than four basic sentence patterns in American English. Variety is achieved through nearly endless possibilities of modification and substitution.
3. *Structure words.* About three hundred "empty" words, having no referents out-

side the language system itself; contrasted to "full" words having referents in the real world outside language. Structure words include many sets, such as noun markers, verb markers, phrase markers, clause markers, question markers, and sentence connectors.

4. *Word form changes* ("grammatical inflections"). Form changes include noun plurals, possessives, verb parts, adjective "comparison," and the like.

I make explicit use of the three levels of language analysis and of the four signaling systems in my explanation of the intractions of speech and reading.

Beyond reading readiness, six "methods" of basic reading instruction have been traditionally suggested. Usually a sort of warning is added to the effect that an "eclectic" method is best: "There is no one method of teaching reading." The terms *alphabet, phonic, word, phrase, sentence,* and *story* methods seem to refer to categories of language or disclosure; but so far the "eclectic" method has not proved eclectic enough to include an accurate description of our language structure. Actually, all six methods attempt to reach meaning virtually without analysis of meaning-bearing language structures. Discussions of reading methodology abound with such expressions as *fused thought content, eye span, meaning units, fusing single words into sequences of meaning,* and so on. The missing part in all these explanations is simply the meaning-bearing structural patterns of American English. It is almost as though meaning could be reached by visual perception of graphic symbols unrelated to the structure of the language they represent.

Current reading methodology, so far as it concerns itself with "language" at all, in fact focuses on letters and words as the most significant units. This holds true even of the several linguistic treatments of reading that limit themselves largely to basic sounds and spelling; these works substantially accept the traditional "phonics" approach, but do provide accurate linguistic data in place of inaccurate information on sound-spelling relationships in English. The main concern is still the single word.

On the other hand, in my approach to reading instruction, the word is treated as a minor language unit for many reasons, some linguistic, others pedagogical. In English the word is an unstable element, whether it is taken as semantic or structural; the most significant structures are intonation patterns, grammatical and syntactical word groups, phrases, clauses, and sentences.

Single words, analyzed and spoken in isolation, assume the intonation contours of whole utterances; they lose the characteristic pitch and stress they normally carry in the *larger constructions that comprise the flow of speech and bear meaning.* This automatic upgrading of words may lead many learners to "read" word by word, or by pattern fragments, without regard for whole structural patterns that carry meaning; this automatic upgrading may thus contribute to the frequency and extent of serious reading disability among pupils of all ages. So far, little has been done to develop reading of American English by its known structures instead of by its "vocabulary."

A structural linguistic approach to reading and to reading instruction appears very promising, however, and there is some experimental evidence to support it. Like any other explication, the present one has an immediate context that helps to locate and define it. Five important elements of this context may be stated as follows:

1. Not enough is known about why some students learn to read while others do not; or in particular, why many bright children do not learn to read well.
2. Reading ability does not correlate reliably with intelligence, nor with any other measurable human trait.
3. Profound confusion prevails in English and in language arts instruction over the relationship of reading and writing to speech; educated but linguistically unsophisticated persons regard the graphic system as the "norm" for both speech and writing.
4. Lacking a rigorous theoretical base, the so-called "eclectic" theory of reading instruction and of the "multiple causation" of reading failures begs many questions and tends to avoid the responsibility for solutions.
5. Consequently, efforts should be made to develop a reading theory

comparable in rigor to theories in other disciplines; structural linguistics can make a major contribution to such a theory.

Within this broad context, the following fourteen substantive assumptions comprise the basis of this approach to reading according to my present understanding. These statements are offered as contributions to a theory of reading and reading instruction.

1. Reading is basically a language-related process.
2. a. Language is speech, an arbitrary code or system of vocal symbols. It is non-instinctive behavior; it must be learned.
   b. Graphic symbols of writing and print comprise a secondary, derivative system;
   c. Thus, a dual set of symbol systems interact, the manual-visual with the audio-lingual.
3. a. Infants and young children naturally learn playfully, they enjoy the game and they enjoy themselves as they play it.
   b. This natural spirit of play should be encouraged and developed fully at all levels of language instruction.
4. a. Simply by talking, normal children from five to seven years old demonstrate their mastery of the basic structures of American English.
   b. Children should learn to read and write the language they already speak and understand.
5. a. Learning a native language is quite different from learning a foreign language. Similarly, developing literacy in the mother tongue is different from learning to read and write a foreign tongue.
   b. Developing literacy in the native language should proceed on the analogy of learning native speech as infant and child.
6. a. Graphics — the representation of language in writing and print—is essentially a "shorthand," a mnemonic device which can effect recall of entire meaning-bearing language patterns, sentences predominantly.
   b. Efficient reading requires consciousness of the relative equivalence of the graphic counterparts to spoken language structures.
7. Accordingly, some reading problems can be solved by developing consciousness of pertinent language processes and their interrelationships with graphics; this statement applies especially to the relationship of written and printed symbols to their equivalent speech segments.
8. The sentence is not merely a sequence of words, but a unitary meaning-bearing pattern of grammatical and syntactical functions: the individual words are relatively minor elements in such unitary patterns.
9. a. Individual words have less significance to hearer or reader than is commonly attributed to them.
   b. The significant elements are grammatical and syntactical structures: noun and verb groups and clusters, phrases, clauses, sentences.
10. Analytical slicing of larger language segments and their graphic counterparts into smaller segments should be done only to the extent that the reading process itself requires it.
11. a. The language learner, like any other, learns what he practices. If he practices analyzing, spelling, and "sounding" words and word-parts, that is what he will learn. He may learn something else accidentally, or incidentally; and he may not.
    b. The child learning to read should practice reading meaning-bearing language patterns at the sentence level.
12. Mastering the graphic system by giving his main attention to larger patterns, a learner would develop his own inductive generalizations of sound-spelling relationships (and this largely through his writing); in reading he would need formal spelling instruction only to get him over difficulties.
13. The American English sentence should be read not as a sequence of words but as a unitary meaning-bearing series of structural functions clearly signaled and patterned by (a) intonation; (b) syntactical functions in basic sentence patterns; (c) structure words; and (d) word-form changes.
14. In developing literacy in the native language, mutual reinforcement of skills may be achieved by coordinating teaching of auding, speaking, reading, and writing in the same lessons, so far as practicable.

The view of reading developed in this book is not offered as a "panacea," but for study and reflection, and as a stimulus to research and experimentation. If it is deeply and widely considered, I believe it may contribute qualitatively to modification and basic improvement in reading theory and instruction. It is time for the field of reading to reflect the great contribution made by twentieth century language scholars to our understanding of all language processes—and of reflective and conceptual thought.[2]

17. Individualizing the Reading Program

PATRICK GROFF

The principles of individualized reading have been explained in detail recently (1, 2, 7). Briefly, these are that the normal child, being actively curious, will seek reading experiences consistent with his abilities, capacities, interests, and energies. His motives for reading are best satisfied when he is allowed to choose, under guidance, reading materials that fit his individual characteristics. He will pace himself at the rate at which he will best learn to read. This is enough to ensure much successful reading and little or no failure—failure to mean here falling behind the pace set by an ability-group or a grade standard.

In practice, individualized reading works like this. The child is given the opportunity to select which reading materials he prefers. He moves from pre-primers to trade books and more advanced textbooks at an individual rate. The teacher holds individual conferences with him as often as possible to evaluate his progress and diagnose his needs. While silent reading generally is done individually, children with similar problems can be grouped for drill sessions if such are shown to be necessary. The child's reading interests and tastes also are extended and heightened through teacher guidance in the conference. A written record is kept for and by each child. A typical teacher's record would include test scores, books read, word attack, comprehension, and oral reading problems. The child shares what he has read with his classmates in small groups as well as with his teacher.

There obviously is more child control of his learning with this approach. It is said more of the child's purposes for reading are satisfied since he is not required to conform to preconceived notions of his individual needs. There is no "slow-group" stigma. It is felt that elementary teachers, not college-bound authorities are here given the major responsibility for teaching reading. The quantity and variety of reading is given greater emphasis, as a consequence.

A typical individualized reading period would run like this: (a) a short planning session by the whole class to set the goals for the period; (b) individual silent reading and/or related activities; and/or pupil-teacher conferences; (c) supervised small group sharing; and (d) evaluation by the whole class for the progress made toward goals.

The reports of results gained through this approach have indicated, with few exceptions, that pupils under it make normal growth in reading. They are said to enjoy it more than ability-grouping, perhaps because of the materials used in ability-grouping. Of the children I studied, 84 per cent said they liked "library books" better than "readers" (4). These children were in essential agreement with advocates of individualized reading as to why this was so. Pupils are said to exercise more self-direction and develop greater love for reading under individualized reading. Reports indicate teachers using it feel more self-reliance, and have more interest in teaching reading.

There are many obstacles that will keep this rather simple-appearing approach from operating effectively, nevertheless. A primary question is the teacher himself. It is not likely all teachers will have success in using individualized reading. Here a teacher must know more than how to use a teacher's manual well. He must clearly understand the reading process, know how to teach for all the objectives of reading (have knowledge of word analysis skills at his fingertips, for example), and be able to establish independent work habits in children. He must know children's books. He must have a desire for adventuring in teaching reading. Some of us, we must admit, are too insecure to try this unique and demanding way of teaching. Imperative are a knowledgeable administration and a helpful, creative supervision to stimulate the learning of the individualized approach through observations, discussion, reading and practice.

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[2] I refer to such well-known linguistic works as Sapir's *Language* (1921), Bloomfield's *Language* (1933), Fries' *American English Grammar* (1940), Bloch and Trager's *Outline of Linguistic Analysis* (1942), Pike's *Intonation of American English* (1945), Trager and Smith's *Outline of English Structure* (1951), Fries' *Structure of English* (1952), Gleason's *An Introduction to Descriptive Linguistics* (1955), Paul Roberts' *Patterns of English* (1956), Lloyd and Warfel's *American English in Its Cultural Setting* (1956), Noam Chomsky's *Syntactic Structures* (1957), W. Nelson Francis' *The Structure of American English* (1958), a volume of articles edited by Allen, *Readings in Applied Linguistics* (1958); and a number of newer books by Carroll, Gleason, Hockett, Roberts, Warfel, Whorf, and others. This is a selective list; a complete bibliography of books and articles published during the last thirty years would run to many pages.

A second problem is the child. Not all children or all classes have the emotional stability or social maturity to work independently. Usually there are in every class some children who have the necessary self-discipline for this approach, however.

A third obstacle is the lack of books. It has been recently reported that about two-thirds of all elementary schools are without the use of libraries. Certainly if children are to choose books for wide reading, there must be a large selection of books at various interest and readability levels. Too, there needs to be developed faster ways to estimate the readability of these books. Someone, in addition, should write a descriptive catalogue of good books that would include an estimate of their difficulty, a resume of their contents, a list of comprehension questions that could be asked for each, and citations of passages suitable for oral reading. This probably is the most badly needed aid of the teacher of individualized reading.

A fourth barrier to the establishment of this approach is the lack of emphasis upon this plan in college methods of reading courses. They generally maintain the status quo of reading instruction therefore rather than break new ground (5). Therefore, almost all the teacher must learn about individualized reading at present comes only through in-service education.

This is likely because of our final obstacle, the commitment of most reading authorities to ability-grouping in reading. The writers of textbooks, meant for use with ability-grouping, are not likely to be enthusiastic over individualized reading, for obvious reasons. Administrators with workable ability-grouping programs also are difficult to convince they should change. From such groups comes the criticism of the approach. Some of the derogations are justified. Some I feel are overly defensive or reactionary.

Justified, it seems to me, is the criticism that individualized reading is not well enough organized; that its procedures are irregular and indefinite. There should emerge more regular procedures as the approach matures and increases in popularity, however. Advocates of individualized reading are mistaken, on another count, if they assume that children do not occasionally like to come together in groups to read the same material. Children need variety and social contact with any approach that is used. In my opinion, defenders of the approach also should admit that a structured word analysis program should accompany the wide and varied reading that is done. (Personally, I believe one of the linguistic word analysis programs would do.)

On the other hand, it is unfair to conclude that individualized reading will not teach children to read independently. In this sense it can be as "basal" a program as is the ability-grouping approach. There is enough evidence that children make normal gains under it to go ahead (6). In light of this, the charge that it must await a scientific test of its ideas smacks of obstructionism. One must ask if all or any of the major reading schemes now in print tested the effectiveness of their method against their existing competitors before being offered for sale. Actually individualized reading is being put to more critical comparisons than any previous approach.

When opponents of individualized reading question whether it develops all the aspects of reading, one infers they believe ability-grouping does. What evidence is given for this alleged superiority? Only the reassurance that all the skills are "covered" in the basal reader. Advocates of individualized reading believe, of course, that wide reading in a variety of materials for a number of purposes is just as likely to develop all the skills. Until objective evidence is offered from either side the question will remain empirical.

Individualized reading has been accused of neglecting readiness for reading, again with the implication that ability-grouping procedures provide enough but not too much readiness. At this writing I have second grade pupils under ability-grouping read to me the next story in their reader, *i.e.*, the one for which they have not had readiness preparation with the new words.

So far, I found that 44 per cent of the words not recognized were "old" words for which they were supposedly prepared. Let us compromise this argument by saying that both approaches are likely to have readiness problems.

A chief complaint has been that teachers neither possess the knowledge about books or enough time to use this approach. One critic insisted that individualized reading demands more than excellent teaching. "The teacher here," he said, "must equal the best of children's librarians." "Secondly, he must design thirty-five reading programs a year." Since it is obvious no teacher can meet these requirements, this critic was convinced that the individualized approach be rejected. Neither of these extreme statements is true, however. If teachers had college courses and in-service training in children's literature, had access to a descriptive catalogue of books such as I outlined above, and came into intimate contact with trade books regularly as they do with individualized reading, they would develop the necessary knowledge of books. It is not an impossible task. Secondly, the teacher does not "design reading programs" under this approach. Instead, he uses one reading program, allowing each child to proceed through it in an individual way.

Finally, some believe that ability-grouping provides for most of the various differences in rate of reading growth through the use of "flexible-grouping." My study of the changes made in reading groups in classes taught by superior teachers convinced me that "flexible-grouping" is largely wishful thinking, however. Certainly, I did not find the degree of flexibility the ability-grouping experts say is essential to their plan (3).

Considering all the above, individualized reading should develop into a reasonable alternative to ability-grouping after its inherent obstacles are overcome, and its unfair critics are quieted.

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18. Reading: The Language Experience Approach

JAMES F. HALCOMB

The language experience approach to reading instruction is one of the many effective techniques being used to help children improve their reading skills. Teachers using this approach value the individuality of children's language expression. They put as much emphasis on the child improving his own language skill as they do on the child learning to use other people's language. The language program is viewed as a total program rather than one broken into arbitrary parts. Reading is recognized as only one language skill and it is not isolated from the other language skills: speaking, listening, and writing. This togetherness of skill development makes possible the continuing use of each child's own experience background as he grows toward maturity.

In the kindergarten, the teacher provides a wide variety of activities designed to extend the experience background of her group. Each day some children are encouraged to share their thoughts by expressing them with paint. Usually there are three or four children who have thought enough about the ideas they have expressed to tell stories of interest to the class. The teacher often records individual stories in the children's own language. These creative efforts of children are given a place of honor in the classroom. Since they have shared in the production children are proud of their efforts. The teacher strengthens the link between oral language and reading. Through personal experiences children learn that, "Reading is just talk written down."

At the kindergarten level the only person who is expected to read print is the teacher. Each day the teacher reads aloud something the children have produced, as well as something produced for children. Through this process children develop a kinship with adult authors.

Study trips, films, interest centers and group discussions, all contribute to the vital objective of enriching the experience background of children. The teacher accepts a deep responsibility for helping each child extend his vocabulary through describing his personal experiences. As the group's background is enriched the teacher encourages every child to experience authorship many times. In addition, each child is provided wide contact with many other kindergarten authors, as well as adult authors.

In the first grade, when a story is dictated, the teacher expects the child to make discriminating responses with regard to subject matter, choice of vocabulary, sentence structure, and the symbols of the language. As early as possible, the child is helped to develop skill in recalling that which he has dictated. He is then ready to develop a sight vocabulary based on the real language of the children in his room.

As the teacher takes dictation from a child she talks about such things as letter formation, the conventional symbols which represent the oral sounds which the child makes. She helps children discover words which are alike, words which begin alike, and words which end alike. She is preparing children for independent writing at the same time she is helping them recognize the common words in our language.

While the teacher is working with a small group, or an individual child, other children are involved in a variety of planned activities which provide for extending experiences. These include activities such as manipulating materials at the science table, creating pictures with paints, modeling with clay, building with blocks, etc. Many children read books which have been developed in their classrooms, others read books from the school library, or those which they have brought from home. The classroom becomes a learning laboratory developed by both pupils and teacher.

The breakthrough for an individual child occurs when he wants to write his own story. The teacher is sensitive to this time for each individual child. She encourages, gives recognition to, and offers needed help for launching the child in his first independent writing effort. The initial child's breakthrough is sufficient motivation for many children to do their own independent writing. As this occurs the teacher and children develop many resources and procedures for writing and reading the materials which have been produced. These materials include: high frequency word lists, word lists of common interest, word lists on one topic, picture dictionaries, children's written material, and library books in the classroom. Further help is received from the classroom environment through interest centers and bulletin boards.

At this point the teacher takes advantage of self-motivation inherent in individual writing to assure mastery of the words most frequently used in all reading and writing. Some techniques she uses include the incomplete sentence which the child finishes in his own unique way based on his own experience. This makes clear why there can be no one correct answer. In fact, the teacher encourages diversity on the part of the children. A collection of children's writing, such as the unfinished stories bound into a book, gives the teacher a useful classroom tool for developing a basic sight vocabulary as high frequency words appear on each page. Resource materials for social studies are developed as children compile class books containing interesting and necessary information on topics they are studying. Every child is encouraged to contribute in his own unique way.

As children write they discover there are many things about writing which they do not understand. Because they are not threatened by failure to understand the common elements of refinement, they are willing to discuss these refinements in group seminars led by their teacher. The seminars deal with topics such as capitalization, end of sentence punctuation, use of quotation marks, spelling and phonics. This is the teachable moment for dealing with writing skills rather than interrupting the reading thought to teach these skills.

Small groups of children who have carefully thought through their stories come together with other children and their teacher. Here they receive any needed help from their teacher and the other children. Their teacher lists needed words on the chalkboard. At the conclusion children are led to reach valid generalizations regarding the listed words, quality of ideas, form, and format.

Children who have apparent difficulty comprehending reading material other than that which they have produced are scheduled to work with the teacher on an individual or small group basis. Their teacher selects published material that is designed to develop the skills which the children have not been able to understand and use. Their teacher seldom uses all of the material in a published book for direct teaching. Stories are selected because they provide material to teach a specific skill.

While some children need a great deal of direct teaching, other children reach independence early and spend most of their reading time with materials selected at a library table.

Children in the third grade continue to develop their ability to read and interact with the content of a wide variety of books which are in their environment. Books provide stimulus for children's writing, as well as models of excellence in written expression.

The teacher's role is one of raising the level of awareness on the part of children that there is more ahead of them. Participation in seminars which deal with areas such as style, form, enriched vocabulary, depth of meaning, and word attack skills, help children derive appreciation for the skills which other authors use as they write. At the same time children develop functional skills which serve them as authors.

What does a language experience approach mean for children? By the time boys and girls are in sixth grade they identify with good authorship to the point of being able to use excellence of style and form in their own writing. Not only can children read with independence and comprehension, but they also choose to read as a leisure time activity, as a means for finding answers to questions, and as a means of extending information in areas of high individual interest. Not only can children write with correct form and spelling, and read with independence and comprehension, but they feel also a responsibility as young citizens in a democratic society to share their own unique forms of expression through speaking, writing and the publishing of what they write.

Children perceive themselves as students who can handle basic language skills for their immediate purposes, but, they have also developed the concept that the best is in the future. The best books are yet to be written. The best plays are yet to be acted. The best speeches are yet to be orated. The greatest music is yet to be composed. The greatest pictures are yet to be painted. The greatest explorations for the benefit of mankind are in the future.

Children who, from the kindergarten year, have had an equal emphasis on the production of language, as they have had on the instruction in the use of other people's language, are the children who are prepared to contribute effectively to a future society.

19. The Mass Media and Reading

PAUL WITTY

The acquisition of TV sets in the United States has been phenomenal. In 1949-1950, when we started a series of investigations in the Chicago area, 43 per cent of the pupils reported having access to TV. The next year, 68 per cent had sets at home; and in the following year, the per cent continued to rise until it reached 99, where it has remained during the past three years.

The foregoing findings are based on a series of studies of TV made yearly by the writer since 1949-1950. In each of the elementary grades, 200 boys and girls have been given every year a questionnaire on TV supplemented by interviews. The teachers and the parents of these pupils have also answered questionnaires. Representative samples have included pupils from low, medium, and high socio-economic backgrounds from schools in the

Chicago area. Approximately equal numbers of boys and girls have been studied. A similar procedure has been used with high school pupils since the first investigation when elementary school pupils only were studied.*

The average amount of televiewing by these pupils has shown little variation from year to year. In 1950, it was 21 hours per week. In 1951, a slight drop occurred. But with increased opportunities for viewing, the average increased again. It has persisted near 20 hours per week throughout recent years. In 1961, it was 20 hours.

In these studies, the primary grade children were found to view less than the older pupils. The average amount of weekly viewing in 1961 was about 15 hours for the first grade and 24 hours for the sixth grade. Slightly less time was given to TV by seventh and eighth grade pupils, and still less by high school students. The average for pupils in grades 9 through 12 was about 13 hours per week.

In a recently published book, Wilbur Schramm and his associates cite several studies and conclude: "In the early grades the average time a child spends on television is about two hours a day. Thereafter, it rises to a mountain peak of three or four hours about the sixth or seventh grade, and falls slowly throughout high school."[1]

Favorite TV Programs

From year to year, the best-liked programs change. In 1950, *Hopalong Cassidy, Howdy Doody, Lone Ranger, Milton Berle,* and *Arthur Godfrey* were at the top of the children's lists. *I Love Lucy* achieved first place in 1952 and kept this rank until 1955 when *Disneyland* replaced it. In 1955 and 1957, *Disneyland* continued to be the favored program but dropped to second place in 1958 when *Zorro* attained first rank. Noticeable was fourth place given to *Shock Theatre,* a type of offering that was especially popular in the middle and upper grades.

By far the best-liked program among elementary school pupils in 1959 was a new presentation, *77 Sunset Strip*. In 1960, *Dennis the Menace* and *Dobie Gillis* were favorites. In 1961, *Twilight Zone* and *The Flintstones* were first and second in popularity. In grades one to three, *The Three Stooges* was given first place, while in grades four through six, *Twilight Zone* attained the highest rank. *Twilight Zone* was the most popular program of high school students too, who gave second and third ranks to *The Untouchables* and *The Valiant Years*.

Schramm and his associates have obtained similar results and have pointed out that variety, adventure, Westerns, and science fiction dominate the early school years, with the crime program and the situation comedy appearing a little later.

> We have, then, almost the entire line-up for the teen years. Crime mysteries become more absorbing. Children's Westerns tend to be replaced by "adult" Westerns such as "Gunsmoke" and "Maverick." Programs like "Disneyland," "Zorro" and "Superman" fade in popularity. Much of their time now goes to crime dramas and popular music. By this time there is very little of the child's viewing that is given any longer to "children's" programs. And as the child's tastes become more and more adult, a tiny flair of interest in public affairs begins to appear.[2]

These writers point out also that there is relatively little viewing of programs offered by educational stations.

> In the sixth and eighth grades, from 15 to 20 per cent of the children view the educational stations at least once a week. In the tenth grade viewing falls off to around 10 per cent. In the twelfth grade it seems to pick up a few per cent. About 65 per cent of the San Francisco sample and 69 per cent of the Rocky Mountain sample able to receive educational television say they do not view the (educational) stations at all.[3]

Despite the strong appeal of TV, radio was shown in our investigations still to maintain a hold upon pupils. The average amount of time spent weekly in radio listening by the primary group was about five hours per week and eight hours by the pupils in the higher grades. In the

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*Articles by the writer have appeared yearly in *Elementary English*, for example, Paul Witty, "Televiewing by Children and Youth," *Elementary English*, February, 1961. The 1961 study was presented by the writer in collaboration with Paul Kinsella in the January 1962 issue of *Elementary English*: "A Report on Televiewing in 1961." See also, Paul Witty, "Studies of Interests of Children," *The Packet*, Winter 1961-1962; Paul Witty, "A Study of Pupils' Interests, Grades 9, 10, 11, 12," *Education*, September, October, and November, 1961.

[1] Wilbur Schramm, Jack Lyle, and Edwin B. Parker. *Television in the Lives of Our Children*, Stanford, California: Stanford University Press, 1961, pp. 168-169.

[2] Wilbur Schramm et al, *op. cit.*, p. 39.

[3] Wilbur Schramm et al, *op. cit.*, p. 93.

twelfth grade, the average was 12 hours. Girls gave more time to the radio than did the boys, but for both boys and girls, the amount of time increased with advancement in grade. Recently the transistor radio has become popular in this area particularly with upper grade and high school pupils. Disc jockey and crooner programs were the favorites in the upper grades and high school.

The results of this study when compared with our earlier findings suggest that children today attend movies outside the home less frequently than in the past. In our latest study the boys and girls said that they most often attended the movies once every two weeks. The average number of times per month for the sixth grade pupils was one and one-half. Less frequent attendance was reported by high school students than by the elementary school pupils; and the boys reported that they go to the movies a little more often than the girls. The favored movies were the ones shown at the theaters near the pupils' homes. The young pupils preferred the Disney type presentation, while science fiction was popular with the older boys and girls. Romantic pictures were listed high in the preferences of the older girls.

Another activity engaged in less frequently now is reading the comics. The comic magazines, although popular, do not have the appeal they had in the past. The average number of comic magazines read monthly by sixth grade pupils was 2.5.

Reading in the Primary Grades

The results of the investigations made in 1958-59 show that reading occupies a place far below TV in the lives of boys and girls. Thus, we find that while the mass media consume several hours daily, voluntary reading is accorded only an hour or a little more each day. The average for the primary pupils was about one hour per day; in grades 3 through 8, it was 1.1 hours; and in grades 9 to 12, about 1.3 hours.

As in other studies, the popularity of animal stories was pronounced in the primary grades. But the impact of the space age was seen in the favor accorded by the boys to stories about the stars, planets, space, and airplane pilots. Girls, on the other hand, appeared to enjoy stories about children; fairy tales were also popular with them. However, like the boys, their first preference was for animal stories.

The most popular titles of books selected by the boys were *Make Way for Ducklings, Mike Mulligan and His Steam Shovel, The Cat in the Hat, Ferdinand, Billy and Blaze.* The girls' preferences included *The Cat in the Hat, Cinderella, Madeline, The Little House,* and *Flip.* Both boys and girls included *Millions of Cats, The Happy Lion,* and *The 500 Hats of Bartholomew Cubbins* in their lists of favorites. However, beyond the first three or four favorites, there were few books cited by many boys or girls. Diversity in reading choices was a characteristic of these pupils.

Series of books are apparently well-liked by primary children today. About 61 per cent of these pupils reported reading one or more series, with the *Golden Books* mentioned most frequently. The *True* and the *I Want To Be* series appeared second and third in popularity but with frequencies much lower than the *Golden Books.* About half of the primary pupils stated that they read magazines. *Humpty Dumpty* was the solid favorite with both boys and girls, with *Jack and Jill* and *Highlights* next in order.

Reading in the Intermediate Grades

The pupils in grades 3 through 6 were questioned about ownership of library cards. More girls (76.7%) than boys (70.6%) answered affirmatively.

The frequencies with which the pupils said they took books from libraries were ascertained. The most frequent time of withdrawal of books from the public library was once every two weeks, reported by sixth grade pupils. Of course, many pupils obtained books every week.

To a question about the influence of TV, movies, and radio on their reading habits, the majority of pupils answered that none of these had influenced their reading. Among those who answered affirmatively, television was highest in influence.

Sex differences in reading preferences were evident from the middle grades throughout the high school. Boys selected fiction, articles in newspapers and magazines, and biography as their first three choices. The girls expressed a greater liking for poetry and plays.

These pupils chose fiction as the kind of reading they liked best. While no one kind of story was an outstanding favorite, the boys rated adventure first and the girls showed a slight preference for mystery stories.

Books involving handicrafts were ranked third by both boys and girls. The principal differences between the boys and the girls appeared in the strong interest of boys in space travel and the greater popularity among the girls of books about famous people.

One of the major trends in the publishing of books has been the development of paperback editions. About 20 per cent of the boys and girls said that they read the paperbacks.

To a question about the reading of series books, most pupils responded that they did not read them. Of those who did (about 35 per cent) the boys outnumbered the girls. The *Landmark Series* was most widely read by the boys; the *First Books* were most popular with the girls.

Both boys and girls listed *Life* first among best-liked magazines. Second rank was given by the boys to *Boy's Life* and third to *Look*. The girls gave second place to *Look*, and third to *The Saturday Evening Post*.

As favorite parts of the newspaper, boys placed sports second to the comics. Girls ranked news second to the comics.

Sex differences were pronounced in the titles of books reported as read voluntarily by pupils in grades 3 through 6. The pupils turned to old favorites frequently. *Little Women, Cinderella, Snow White*, and *Heidi* were given ranks 1, 2, 3, and 4 by the girls while the boys listed *Black Beauty, David Crockett, Daniel Boone*, and *Huckleberry Finn* similarly. Few titles had more than five frequencies; again diversity characterized the choices of the boys and girls. The results of this study are similar to those reported in *The San Francisco Study of Children and Mass Communication*.

> . . . The favorite books they named in the fifth and sixth grades include some well-known titles which have given pleasure to earlier generations; for example, *Black Beauty* (12 votes), *Little Women* (8 votes), *Wizard of Oz, Heidi, Huckleberry Finn, Tom Sawyer*, and *Treasure Island* (3 each). But even these great old favorites attracted only a tiny percentage of the votes. The significant feature of the data on book titles was the spread, rather than the concentration.[4]

Our study yielded results somewhat different from the San Francisco on items related to the number of books read. In our studies, the pupils in the primary grades appeared to have read outside school about one and one-half books per month on the average; in the middle grades two and one-half books per month were reported. The peak was in the sixth grade. And in the high school, the average per month was about one book.

It is stated in the San Francisco Study:

> The amount of book reading increases from first grade through sixth, and girls read more books than boys. On the family interviews, children in the elementary grades could, on the average, give the names of approximately *three* books each of which they could recall reading in the last six months. The communication diaries—which in other media tended to give lower figures than did the interviews—showed fifth and sixth graders reading (or reading in) an average of 1.7 books each during the test week. It is probable, therefore, that the average student in the elementary grades, once he has learned the basic skill of reading, reads between one-half and one book per month during the school year.[5]

Reading in the Seventh and Eighth Grades

Sex differences continued to be shown in the reading preferences of the pupils in grades 7 and 8. Stories containing the elements of adventure, mystery, and humor were well-liked by both boys and girls. The boys gave second place to science fiction and girls ranked stories of romance with those of mystery at the top of their list. The girls cited *Little Women, Senior Prom,* and *Double Date* as favorites while the boys chose in order *Tom Sawyer, Babe Ruth,* and *Robin Hood.*

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[4] Stanford Institute of Communication Research, *The San Francisco Study of Children and Mass Communication*, Report 4, p. 2. Received February, 1959.

[5] Stanford Institute of Communication Research, *The San Francisco Study of Children and Mass Communication, op. cit.*, pp. 1-2.

See also *Television in the Lives of Our Children, op. cit.*, p. 36.

The boys and girls tended to select non-fiction books in similar categories although the rank orders were different. Thus, the boys in grades 7 through 8 preferred in order books about space travel, famous people, travel, and handicraft, while the girls favored famous people, careers, people from other lands, and travel. Books about famous people were the best liked non-fictional reading.

Students in grades 7 and 8 reported reading paperbacks more frequently than did pupils in the earlier grades. More girls than boys stated that they read paperback editions. Thirty-eight per cent of the boys and 46 per cent of the girls said that they read paperbacks. And about 55 per cent of these pupils reported reading series books. *The Landmark Series* was the most widely read. The *First Books* were second in rank for the boys. Girls gave first place to the *First Books,* and second place was shared by the *Landmark Series* and *Bobbsey Twins.*

The seventh and eighth grade pupils ranked the picture magazines—*Life* and *Look*—as their top choices among periodicals read regularly. *Boy's Life* ranked third among the boys, and *American Girl* was the girls' third choice.

The newspapers read regularly by pupils in grades 7 and 8 consisted of the local morning or evening publications. The four parts of the newspaper generally preferred by the boys and girls were comics, sports, front page, and news. Boys placed sports second to the comics. Girls ranked news second to the comics and included sections such as the women's pages and "advice" columns, among other favored parts of the newspaper.

Superman was clearly the favorite comic magazine of the boys and the Disney type comic also ranked high at this level. There were conspicuous differences between the choices of the boys and girls. Boys tended to give higher ranks to thrillers such as *Superman* and *Batman* while the girls' preferences included more frequently magazines such as *Archie* and *Little LuLu.* There has been a marked decrease in the reading of comic magazines since the advent of TV.

As in earlier grades, *Dick Tracy, Nancy,* and *Dennis the Menace* were the popular comic strips; and there was marked similarity in the choices of the boys and the girls.

Reading in the High School

Although secondary school pupils give less time to TV than elementary school pupils, they do not appear to do more voluntary reading. The average time spent daily was about one and one-third hours per day, with girls giving slightly more time than boys to reading.

The pupils reported that movies and television programs had influenced their reading of books to a greater extent than did the radio. Movies ranked first and radio third in influence among these pupils. Some of the movies had been seen on TV.

The girls gave fiction highest rank as the kind of reading they liked. The boys' first choice was newspaper and magazine articles. Second choice for the girls was articles in newspapers and magazines. Fiction was the second choice of the boys. Relatively small percentages of the pupils reported a liking for poetry, plays, or essays. But the girls expressed a greater liking for poetry and plays than did the boys.

Science fiction was among the preferences of the boys, but it did not appear high in the girls' choices. Similarly, romance and career stories were chosen as favorites by the girls but not by the boys. The boys indicated a stronger preference for adventure stories. Girls appeared somewhat more interested in humorous stories. In general boys expressed a preference for stories involving action and adventure, while girls generally preferred romance, mystery, and humorous stories.

The favorite book titles of the boys in the ninth and tenth grades were *The Yearling, Kon Tiki,* and *Around the World in 80 Days,* while the girls in these grades favored *Gone With the Wind, Little Women, Sue Barton,* and *Kon Tiki.*

The most popular titles of the boys in the eleventh and twelfth grades were *Kon Tiki, Old Man and the Sea, Tale of Two Cities, Huckleberry Finn, Cry the Beloved Country,* and *20,000 Leagues Under the Sea.* The favored title of the girls in the eleventh and twelfth grades was *Gone With the Wind;* with *Tale of Two Cities,* and *Jane Eyre* next in favor.

The boys and girls tended to select nonfiction books in similar categories although the rank order differed. Thus, the boys in grades 9 and 10 preferred in order books about famous people, travel, and space travel while the girls preferred famous people, careers, and people from other lands.

The students were asked whether they read paperback books. Slightly more girls than boys said that they read the paperbacks. In the eleventh and twelfth grades, the per cent was about 35 for both the boys and girls. Forty-seven per cent of the ninth and tenth grade pupils reported reading series books as compared with about one-third of the pupils in the eleventh and twelfth grades.

The students consistently ranked the picture magazines *Life* and *Look* among their favorites. *The Saturday Evening Post,* news periodicals such as *Time* and *Newsweek,* and *Seventeen* also appeared frequently.

The newspapers read regularly consisted primarily of the local morning or evening publications.

Fewer comic books were read by high school pupils. As in the junior high school, *Superman* was the favorite comic book of the boys with *Donald Duck* in second rank. *Archie* and *Little Lulu* were the favorites of the girls. In general the boys tended to prefer thrillers, such as *Superman,* whereas the girls turned more frequently to humorous and romantic comic magazines. The favorite comic strip for both boys and girls in grades 9 through 12, was *Dick Tracy.* They also liked *Dennis the Menace.*

Concluding Statement

Throughout the entire series of investigations the influence of the electronic Pied Piper was reflected again and again. There was evidence, too, that the domination of the mass media was gradually being accepted by parents and teachers. For example, although both parents and teachers set forth their concern about the possible ill effects of TV on reading, the number of such complaints decreased during the period of these investigations.

From our studies, it appears that the average amount of reading has probably increased a little since the advent of TV. This is shown in the reports on books read as well as the amount of reading pupils claim to have done before and after the advent of TV. Nevertheless, the small amount of time devoted to reading—about one hour each day—stands out in sharp contrast with the larger amount—three hours daily—given to TV by the elementary school pupils.

The present status of reading among children is by no means satisfactory. The average child does not appear to read widely. Moreover, there are many intelligent pupils who read little, as well as many others who are unjustifiably retarded in reading skills.

To offset the threat of the mass media to reading, both parents and teachers can make positive contributions. Parents can help by setting a good model for children. If they turn frequently to books for information and pleasure and if they read children's stories aloud, their children will probably conclude that it is worth while to read and will in turn learn to enjoy reading. If parents plan family recreational programs that include reading, televiewing, and other activities, children will be led increasingly to assimilate TV in well-balanced and individually suitable patterns of leisure activity. If TV programs are discussed as a basis for the selection of books, children undoubtedly will read more.

Teachers can make a significant contribution by striving to help boys and girls acquire more effective habits and skills in reading. They can assist further by more widespread efforts to develop in children desirable interests and more effective balanced patterns of recreation. They can seek too to help children improve their listening habits and their attitudes toward the place and value of reading today.

Parents and teachers together should encourage the development of improved commercial programs as well as more interesting, varied, and appropriate educational TV. By seeking improvement in present offerings, and at the same time by guiding children to choose programs with discrimination, they can give additional assistance in the wise use of this great medium of entertainment and enlightenment.

20. Television Teaching and Large Group Instruction Common Characteristics

NINA T. FLIERL

Television teaching and large group instruction have common characteristics which produce superior teaching and improved learning, a vital need in today's educational picture. With over 35.3 million students in the elementary and secondary schools of the nation, there exists a shortage of over 200,000 teachers and 132,000 classrooms. The contributions of TV and large group instruction can offer partial solutions along with raising the level of learning.

Whether it is a TV instructor teaching 100 to 300 students on closed circuit television, a TV teacher talking to an unknown number on open circuit television, or a large group instructor teaching 100 to 300 students in a single class, the result is the best teaching ever done by that teacher. As one large group instructor recently said, "You do better teaching, for you can't talk to 200 students 'off the cuff'—let alone teach them."

The common characteristics bringing about improved learning in TV and large group instruction are: the most advantageous planning and preparation for the lessons, outstanding teachers doing the teaching, use of mechanical aids and visuals to fully illustrate lesson points, greater insurance of pupils being ready for instruction, creativity an integral part of the teaching, the incorporation of a teaching machine and programming philosophy, and a still undefinable student attention aspect.

Good planning, a part of all good teaching, is an absolute essential to TV teaching and large group instruction. Excellent preparation gives all students the benefits of the best presentation possible, for thorough and detailed planning is a fundamental requirement. A teacher, whether she is going before TV cameras or teaching large numbers of students, must be prepared and prepared fully. The teacher is selective first in deciding what is to be taught. Then she develops teaching content from planning with participating teachers either in a team teaching situation or with TV viewing teachers in a committee framework. Group planning strengthens the curriculum content of the lessons. Planning arranges to elicit maximum learning on the part of the students. A change of pace is structured with listening, writing, reading, discussing, and demonstration lesson activities. In TV the teacher is generally responsible for one telecast and has the resources of clerical help, art workers, and the television director's background as to what works on the screen. A team teacher has clerical help, art consultant help, and a reduced teaching load. These help to insure the finest lesson presentations.

Gifted teachers are the rule in both TV and large group instruction. When a school system embarks on educational television or begins a team teaching project, the teacher with proved ability is inevitably chosen for the job. The procedure generally is to choose that teacher who has already demonstrated superiority and excellence in the classroom. An additional facet is her pioneering spirit to take on the challenge of incorporating this successful experience into a new and uncharted area. With TV reading instruction less than a decade old and team teaching even newer on the educational scene, both areas are a long way from the handbook approach to guide a teacher's instruction. While many instructional practices have proved successful, teachers and school administrators indicate the need for the continuing development of materials and teaching techniques.

The use of mechanical aids and visuals further insures the best presentation possible for lesson content. Utilization of art consultants is standard practice for making TV visuals and for doing overhead projector transparencies. Cartoons, maps with overlays, photographs, diagrams, slides, charts . . . are only some of the visuals being used. Professional art personnel make for excellent illustrations as well as for facilitating the use of visuals by the teacher.

Greater insurance of students being ready for instruction is a by-product of both kinds of teaching. In the TV lesson the teacher gives directions or explanations once, and the student learns that he must be ready to follow the teaching. To a lesser degree, the same principle operates in large group instruction. Here a student may ask for more detailed explanation. However, this type of lesson with exact directions and programming of learning elements aids the clarity of the curriculum content. Team teaching projects universally report a prestige factor on the part of students in the classes. This may account for the high attention and receptivity. TV instruction has the positive identification with TV magic. Student readiness is furthered also by the classroom teacher's use of the lesson guides. The viewing teacher or teacher team member knows the exact lesson content, preparatory activities, follow-up teaching, and bibliography.

Creativity is an important adjunct of the teaching, for the TV teacher or the large group instruction teacher must develop new ways of presenting the instructional material. This teaching demands creative thinking, for the lesson necessarily must be more than a lecture, so that fresh approaches to the curriculum content are required. The art workers and consultants aid this aspect. One TV reading teacher often gave the briefest of outlines to her art consultant and was continually amazed at the visuals. Out of one directive that some humor was needed came a series of reading cartoon characters which were a tremendous hit with viewing students as well as putting across sound reading ideas. In addition, the teaching, with its newness, its potential for education, and considerable budget allotments, is the kind of teaching that involves the interest and suggestions of many. Creativity in the lessons is increased with the thinking and contributions of TV directors, subject supervisors, participating teachers, art consultants, and school administrators.

The incorporating of a teaching machine and programming philosophy to this teaching is another corollary. The advantages to learning of a programmed approach are recognized widely. Programming is based on these psychological principles: the careful and logical sequencing of items to be learned, student activity to insure reinforcement, and the immediate knowledge of the correct response to aid reinforcement of learning. With the thorough planning required of TV and large group instruction, a teacher necessarily must be selective in the teaching material content with the careful sequencing of this material in logical order. Student activity with immediate reinforcement is a natural for either TV or large group instruction. When a student actively participates in the lesson, learning is strengthened. Student responses range from written answers through thinking an answer to raising hands. One TV reading teacher asked for fingers raised to indicate the number of syllables in a word which was followed by the correct number and explanation on the screen. Another large group instructor gives a spelling test with first pronouncing the word followed by the word written on the screen so that the student is responsible for the correction and gains immediate spelling reinforcement. Infinite possibilities exist for the use of programming in TV and large group instruction.

An additional characteristic of the lessons is increased student attention. Classes have an air of importance and a prestige factor. This is apparent either with the students together in a team teaching large room situation or in a TV classroom. One principal said after an observation, "It is difficult to put your finger on why, but this is a superb learning situation."

The superior teaching and improved resultant learning concomitant with TV teaching and with large group instruction can offer some of the solutions to the problem of the future quantity and quality of American education.

21. Antidote for Apathy—Acquiring Reading Skills for Social Studies

HELEN HUUS

While school keeps in thousands of classrooms throughout our country and while a generation of pupils grows up to take their turn at running the world, time does not stand still. Europe busies herself with the Common Market, Algeria has an uneasy truce, trouble crops up in Indonesia, Argentina, or Syria, and our children study school and community, state and nation, often in a half-hearted, mechanical way, and dull their senses by rote memory, a multitude of proper names (many unidentified), and a lack of zest for the whole idea. Why an apathy for social studies, when it is constantly teeming with action, people, adventure, and daring —all aspects that interest the elementary school child? Why, indeed?

The answer lies, perhaps, in three directions—the pupils' own skills, the materials available, and the teacher's enthusiasm and know-how. The antidote for apathy, as for any evil, lies in counteraction—in working against, and since the opposite of apathy is interest, feeling, activity, and excitement, the obvious way to counteract it is to promote these opposites.

While there are many and varied ways in which such skills might be analyzed, they have been organized into the three general categories of pronunciation, meaning, and application for purposes of this discussion. Each of these will be treated in turn.

Pronunciation Skills

Multisyllabic words. — Whenever a reader faces new material, his first responsibility is to decipher the symbols into meaningful units. In social studies, as in any subject area, the reader applies the skills of phonetic analysis, structural analysis, and context clues that help him arrive at the pronunciation and ultimate recognition of the words he must read. Since many of the words in social studies are multisyllabic words, the reader needs the ability to apply the generalizations dealing with words of this type. Following are five useful generalizations for this purpose:

1. When a word has a double consonant (or two consonants) following a vowel, divide the word between the consonants, such as: Hit-tite, Mis-sis-sip-pi, Ham-mer-fest, col-lec-tive, Ap-pian, Bren-ner, and tun-dra, Mos-lem, mon-soon, or-bit, or Den-mark.
2. When a vowel is followed by a single consonant in a word of more than one syllable, the division is made *before* the consonant, as in: A-ra-bi-an, A-so-ka, as-tro-labe, co-lo-ni-al, Hai-fa, Rho-de-sia, So-viet, and ve-to.
3. When a word ends in "le," the preceding consonant belongs with the unaccented ending, as in: Bi-ble, mid-dle, Con-stan-ti-no-ple, and mar-ble.
4. When a word contains a consonant blend, the blend is usually not divided, as in: We*st*-min-*st*er, Rem-*br*andt, man-u-*scripts*, Liv-ing-*st*one, and Ca-sa-*bl*an-ca.
5. A word may be composed of a root plus a prefix and/or a suffix. Common prefixes that should be learned are: *un, ex, pre, ab, ad, com, en, in, re, de, sub, be, dis, pro.* Common suffixes include: *ment, tion, tive, ly, less, ance, ness, ful, ship.*

Unless pupils are given practice in using syllabication skills, both in the regular developmental reading class and as applied in social studies and other classes, they do not acquire the needed ease of recognition that allows them to read material of difficulty with interest, and simply plodding along can become a deadly bore.

Foreign words.—Even a student who may have acceptable skills in word recognition will almost certainly encounter difficulty when he tries to apply those he knows with some of the words he finds in his social studies reading—words derived from foreign languages that have kept certain elements intact, and proper names that have retained the original pronunciation and have not been Anglicized.

In the first category are such words as: *plateau, saga, mesa, fief, kaiser, hotelier, veld, apartheid, fjord, atrium,* and *ballet,* while in the latter are the French Renaissance, Marsailles, Versailles, St. Chapelle, and Basque, but Paris (not Paree); the German Roentgen, Gutenberg, Bach, Beethoven, Wagner, Worms, and Frankfort am Main (not Maine); the Italian da Vinci, Verdi, Rossini; the Indian Brahman and Buddha; the African Leopoldville, Afrikaner, or Nkrumah; or other difficult pronunciations like Goteberg, the Louvre, and Popocatepetl or Port Said. At any rate, children who learn correct pronunciation of the many proper names in social studies have a small beginning toward becoming multilingual.

Use of the dictionary.—Knowing the basic generalizations for getting words independently will help, but there comes a point when even the mature reader needs the verification that can be found only in an authoritative source. Is it Himālaya or Himalaya? Hamburg or Hămburg? Istanbul or Istambul? Yucatan or Yucatăn? Edinburg or Edinboro? The dictionary or glossary should tell, but the difficulty lies in checking the pronunciation initially so that incorrect forms are not practiced and thus become difficult to eradicate.

Meaning Skills

Technical words.—In addition to the pronunciation problems already described, the number of technical words used in social studies promote apathetic reaction. The technical words may be unique to the field or may be words for which the student already has one meaning. In the former category are words like *latitude, longitude, Constitution, Declaration of Independence, dictatorship, consumer, transportation,* and so on. In the latter are such words and phrases as *compass rose,* the *Gold Rush, world trade, the world market, diet* (as in Diet at Worms), *man power, raw materials, fixed salary,* and others equally obscure.

Abstract words. — Social studies also abounds in abstract words like *democratic, loyalty, dignity, appreciation, interdependence, conservation, Dark Ages, industrial revolution, capital and labor, the Iron or Bamboo Curtain,* the *Cold War,* and the *New Frontier.*

The antidote for getting meaning into these technical and abstract words lies in tapping the pupils' own experiences by first relating the unknown word to some similar concept within his knowledge—location by latitude and longitude, for example, could be related to the location of buildings at a street intersection. Explanation is another way, and easy, or a study can be made of the word itself by first stripping off the prefix and suffix, as in the word *transportation,* leaving only the root word. Some pupils may already relate the root *port* to other words like *porter* or *portable* and make their own generalization about its meaning. When the prefix meaning of *across,* and the suffix meaning of *the act or state of* are added, pupils arrive at a meaning for *transportation* as "the act or state of carrying across." By substitution in the sentence, pupils clinch the idea and learn its use.

Of course, first-hand experience is the best teacher, and pupils who have been to Sutter's Mill have heard vivid tales of the Gold Rush; first-hand experience with maps will soon clarify what a compass rose is. Excursions are by far the most fruitful techniques for developing vocabulary easily, quickly, and permanently. Students learn new vocabulary naturally as they use the proper terminology for describing a place, an object, a method, or a product. A visit to a mill, for example, clarifies such words as *millwright, grist, rollway, undershot, mill race, vats, roving, carding, spinning jenny, sawyer, turbine, penstock,* or *sluicegate.*

The maps, diagrams, pictures, and other types of illustrations found in abundance in many social studies texts are there for a purpose—to help children visualize the scenes, to help them grasp relationships of rainfall, products, income, taxes, or time. Meaning is certainly enhanced when a diagram or photograph accompanies a description of locks on a canal, water wheels or ladders for fish, when a graph shows the distribution of rainfall for a certain area according to seasons or months, or when a time line puts the Age of Exploration into proper relationship with the Viking Era and the present. To make time really meaningful, let children put their own dates of birth on the line and let them see how short a span their life up to the present actually is.

For those pupils who simply cannot keep up, even with expert help, Fry recommends "glossing" as an aid to comprehension. This means "simply reading to students from the text, stopping frequently to explain concepts and terms."[1] At best, the teacher makes the page come alive by supplementing from his extensive background and, when coupled with enthusiasm, is guaranteed to capture the interest of even the most apathetic.

Organization skills.—Inherent in the total complex of skills in comprehension lies those related to the organization or structure of the material. The "cluster" of skills, as Robinson calls them, related to organization includes reading for details and main ideas, changing main ideas to topics and details to sub-topics, then labeling them in outline form. He presents three steps as a practical approach: (1) locating key words in sentences, (2) finding the key sentence in a paragraph, and (3) determining the main thought in a paragraph.[2]

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[1] Edward B. Fry, " 'Glossing,' An Ancient Method to Aid Social Studies Teachers with Reading Instruction," *California Journal of Secondary Education,* XXXII (February, 1957), pp. 90-92.

While pupils may be able to see the structure of a sentence or a paragraph, they must be able also to obtain the larger view of a section or a chapter—yes, even of a total book—if they are to place historical events in proper perspective or obtain an international rather than a national or regional view alone. This means a constant shifting of position as additional information is obtained, and seeing these new relationships may require help. Modern textbooks provide useful aids in their varied type faces, side headings, and sectional titles, and teachers help pupils use outlines. One practical way is to have topics set down without numbers or letters, but using indentation instead to show relationship between main and subordinate levels. Then, as the story unfolds, these outline parts can be rearranged and literally lifted out and placed in the new frame of reference in its proper location.

Certain words act as "cue words" to help readers define organization and relationships, or shifts, and transitions. Such words include: *on the other hand, furthermore, nevertheless, in addition, moreover, since, because, for, but,* and the obvious *first, second, third,* and *finally.* These indicate transition, connection, and relation, and give warning that such will occur. Teachers can give added practice in heeding these signals by concocting exercises where pupils fill in missing connectives or change meaning by substituting other connectives. Another technique is to have pupils locate word clues in their textbooks and other reading materials.

Besides the logical organization embodied in the main idea-detail structure of writing, other types encountered in social studies include chronological organization, with pertinent events related in the order they occurred, or the fictional approach sometimes used in the lower grades, where events lead up to the climax of the story. Time lines help give the proper chronological perspective, as do two-dimensional charts that place topics like "economics," "political history," "geography," "invention," and "trade" along the top of a chart and the names of various countries along the side. Each row then shows one country in relation to each topic, while each column shows the status of that topic in the various countries listed. Such charts can be made for a decade, a century, or even an era, but reducing organization to visual form has the added advantage of sensory appeal. Picture charts serve a similar purpose and catch the interest of some students who might not be enticed by the abstract approach.

Understanding the over-all pattern of a subject area, such as social studies, provides a background and a gestalt for further learning. While this pattern is complicated by the staccato presentation of facts without expansion, by the introduction of many names and terms, and by the remoteness to pupil experience, it has the advantage of providing many new learnings and enough "top" for even the brightest, as well as a certain exotic flavor inherent in eras past and places distant.

Simple comprehension. — Anderson makes a plea for the constant use of the "unseen question" as a stimulus for students to read and comprehend. He emphasizes the importance of the reader's purpose, that he set his own, and that he then answers what he started out to find.[3] While it may not always be practical for pupils to set their own purposes, teachers can arouse interest and, together with their pupils, set the purposes for reading. The SQ3R technique (survey, question, read, recite, review) is a similar method couched in catchy terms, but useful nonetheless.

Once purpose is set, pupils need to choose a speed of reading commensurate with the job to be done. For the survey, skimming to locate key words and headings, to see the over-all job, and to obtain an overview will suffice. For the answering of questions, a more careful reading than before is needed. For the review following the recitation, a quick cursory reading will be sufficient. Being able to shift speed gears smoothly is a mark of the mature reader, and students need practice under supervision in order to accomplish this task.

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[2] H. Alan Robinson, "A Cluster of Skills: Especially for Junior High School," *The Reading Teacher,* XV (September, 1961), pp. 25-28.

[3] A. W. Anderson, "Directing Reading Comprehension," *The Reading Teacher,* XIII (February, 1960), pp. 206-207, 211.

Interpretation skills. — The intricate "cluster" of skills comprising thoughtful interpretation cannot be discussed fully here; only two will be mentioned—inference and evaluation.

Inference refers to those ideas implied but not explicitly stated and which are acquired by reasoning or concluding. The contents of social studies texts are replete with cause-effect implications, time relationships, generalizations about exploration, the effect of terrain on development, the organization of governments, the influence of imperialism or a thousand other ideas. How to teach becomes a problem, for, of necessity, the making of inferences requires the use of higher mental abilities —to see two ideas, to note common elements and make a connection between the two, then adapt the new idea to the unknown — and slow learners will need explicit help in having the points of similarity and relationship specifically cited while fast learners are already applying the method to new content.

The first question that might well be asked in *evaluation* relates to the author and his purpose. "Who wrote this material? Is he qualified to do so?" In an article entitled "The Power and the Glory of the Word," Nance makes the following statement about authors in general:

> The writer is a human being and a citizen. The scope and content of his material will be conditioned by his major interests, his outlook on life, his responses to life, and his experience, knowledge, abilities, and opportunities. . . .[4]

The competency of the author becomes particularly important when facts disagree, or when different works place different interpretations on the same series of events, or when events are presented from different points of view. Finding pertinent information about living authors is sometimes difficult, but students can look at the book jackets, the comment column in a periodical, or the blurbs from the publisher. The reputation of a publishing house can lend dignity and prestige to an unknown author until he makes his mark. At any rate, readers must be taught to consider the source.

Related questions, "Why did the author write on this topic? Was it to advertise, to propagandize, to present information, to present a point of view?" must also be given attention. Nance comments on purposes for writing by saying:

> Writers throughout the centuries have had many different goals: To recover the past, to record and conserve for the future, to interpret, comment, report, arouse, condemn, defend, entertain, annoy or to obtain personal or institutional publicity.[5]

Certainly if there are hidden or ulterior motives, students should be able to locate the signals and analyze the material accordingly. The use of sweeping generalizations not backed by data or examples, the "snob appeal" so rampant in advertising, the pseudo-scientific surveys often quoted, the testimonial or "everyone believes" technique, or the use of emotionally tinged words like *fellow traveler, anarchy, slave, imperialistic, dictatorial,* or *beneficent, philanthropic, generous, handsome, immense proportion,* or *gigantic, collossal, stupendous, magnificent,* reach various people in different ways. It becomes important to create in readers a studied wariness that aids them in objective judgment: to paraphrase *caveat emptor,* "Let the reader beware!"

The second question in evaluation ought to be, "Is the information true?" In part, a reputable author's word is taken, but skeptical readers and careful scholars check to see if facts agree and decide if enough facts are presented. Here is where the student's knowledge and background come into play, for his incidental or systematic learning serves as a backboard against which to bounce the ideas of the author, as well as to raise questions about facts that seem somehow to ring not quite true. Checking against other references—encyclopedia, atlas, almanac, or any number of handbooks and general works—becomes necessary, and through practice and guidance students become proficient in locating the right source and finding within that source the material needed.

A third aspect of evaluation relates to the quality of writing exhibited by the author. For illustration, the following excerpt from an article entitled, "Hong Kong Has Many Faces," in a recent issue of *National Geographic* describes Hong Kong's rise as an industrial city:

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[4] E. C. Nance, "The Power and the Glory of the Word," *Vital Speeches,* XXIII (April 1, 1957), p. 381.

[5] *Ibid.*

> For decades . . . Hong Kong was the front door for the great China market. Sitting astride the world's trade lanes, the city endlessly shuttled goods in and out of its busy warehouses, bound from China to the world, and from the world to China. Then came the Korean War. The United Nations voted an embargo on trade with China, and Hong Kong — the old Hong Kong — sickened.
>
> The city might have died if another "disaster" had not come along at almost the same time. The years of the refugee were 1949 to 1951, when men poured out of Red China in the hundreds of thousands.
>
> "Fortunately," he said, "that problem arrived with a built-in solution, for the refugees were not all poor men. . . .
>
> "Here, in one place, were capital and labor, eager to work together."[6]

Figures of speech like *the front door, sitting astride, sickened* . . . and *might have died, men poured out,* and *a built-in solution,* add meaning through the imagery and relationships implied. Certain of the words connote a tone that transcends the description. These words create a feeling of greatness and strength, as implied in the phrases *front door for the great China market, sitting astride the world's trade lanes,* and *endlessly shuttling.*

The style of writing—the figurative, picturesque, and connotative aspects—influences the reader's understanding and reaction to what he reads. A lack of awareness of the subtleties of style will result either in gullability or lack of accurate perception.

The acquisition of complete meaning, therefore, lies in the reader's ability to understand the technical and abstract vocabulary, to grasp the structure and organization of the whole, to interpret the ideas implied but not directly stated, and to evaluate not only the author's competency and the validity of his statements, but his style of writing as well.

Application Skills

Problem solving.—The third reading skill to be emphasized here is reacting to and using the ideas and impressions gained through reading. The highest level of reaction and application is the actual integration of the concepts, attitudes, and appreciations into the reader's own life so that what he reads becomes a part of him forever. For each person, there could be compiled, perhaps, a list of "Reading that changed my life." And is not this, after all, the ultimate goal of education—social studies, too—to change people from illiterate to literate, from uncultured to cultured, from irrational to rational? When reading materials in the social studies serve this goal, they are powerful agents indeed.

Students may react to their reading about Hong Kong, for example, by changing or forming opinions about the city itself, the people who live there, or they may do further research in order better to understand this complex city.

Extended Reading.—What other use can the student make of his new found skills in reading? Merely keeping up with textbook assignments keeps some students busy, but even they should have an opportunity to use some of the beautiful, interesting, up-to-date books about our own and other countries, about historical eras, geographical areas, and the function and operation of government. The hundreds of books for children published each year contain a wealth of information; teachers need but to make them available to the right children at the right time.

Teachers stimulate extended reading when they take time for current events, for even elementary school children are interested in weather, sports, space, royalty, and the President and his family. Keeping up to date with the news is a good way to establish the habit of news reading with young children.

But it is in books that many children find their identification with heroes of another age or of another culture. Serviss recommends that teachers "help children find books convincing in portrayal, vivid in sensory imagery, reasonable and alive in characterization, discerning in the revelation of universal traits."[7]

Library books contribute in various ways to make the social understandings meaningful and interesting to children. They paint images in depth and detail, for one paragraph in the text can be amplified by extended treatment. They clarify concepts and expand reasons only briefly mentioned in the text, and they put the breath of human life into historical characters and people who live in other countries.[5]

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[6] John Scofield, "Hong Kong Has Many Faces," *The National Geographic Magazine,* CXXI, No. 1 (January, 1962), pp. 9-10.

[7] Trevor K. Serviss, "Reading in the Content Areas," *Elementary English,* XXX (October, 1953), p. 359.

In choosing books to counteract the pallid fare or pulp material so easily available to children, first ask, "What do children of this age *like* to read?" If the group is young, they like stories of children their own age, animals, slapstick humor, pictures with clear colors and not too much detail, and simple plots with repetition and refrain. A book like *Nu Dang and His Kite* not only tells of Siam (Thailand) as Nu Dang paddles up the long river to look for his kite, but also contains the gloomy refrain, "But nobody had seen it. Nowhere. No kite at all." Fortunately the kite is at home when Nu Dang arrives, for the wind had carried it there; so the ending is most satisfying to young readers. Children sympathize with Ping, the duck who runs away rather than being last on the boat and getting the spank he knows will come, for they, too, know that "fair is fair." But they rejoice when he escapes, and they realize that after all, a spank is nothing much compared to what Ping has survived.

Children learn about the world of work through such books as Lois Lenski's *Farmer Small, Cowboy Small,* and *Pilot Small,* or through Burton's *Mike Mulligan and His Steam Shovel,* or Bate's *Who Built the Bridge?* While some of these books personify machines, nevertheless the power and importance of their work is clearly portrayed. Children get gentle nudgings about manners from Munro Leaf, and through the charming books of Tasha Tudor they follow the seasons and the calendar, learn to count, and recite the alphabet in order. Holidays give a chance for biography—the colorful picture books by the D'Aulaires of Lincoln and Washington, Franklin, and Columbus—or for stories like *The Thanksgiving Story* and *The Fourth of July Story,* by Alice Dalgliesh, or *The Egg Tree,* that won the Caldecott Award, and *Patrick and the Golden Slippers,* that tells about Philadelphia's annual New Year's Day Mummers' Parade. (Yes, there are many books that appeal to younger children.)

The middle-graders love adventure and mystery, exploration and invention, and girls begin to look for romance. All of these can be found in books that enhance the social studies. Biography is fun when there is *Ben and Me* to compare with the facts, or *Mr. Revere and I.* History becomes contemporary when *Adam of the Road* contains the story of a budding wandering minstrel, an eleven-year-old boy who has lost his beloved dog, even though the story begins in the year 1294. Geography is really people when preadolescents follow Big Tiger and Christian, who get caught on a troop train just because they tried to fly their kites from an empty box car. Their adventures through Mongolia and Sinkiang include robbers, bandits, a lama, and soldiers, and the responsibility of carrying a secret message. Geography is people when Young Fu has grown gradually into a capable coppersmith craftsman, and when Li Lun, Lad of Courage, plants seven grains of rice on the highest mountain, then tends the last grain so that it survives to bear rice heads. Thus he shows his people a new way to combat hunger. Geography is people, too, when Momo, a little Tibetan girl, follows the trail of her stolen golden Lhasa terrier, Pempa, from her home in the hills to the busy city of Calcutta. Even boys will thrill to the suspense in this story, and all who read it will learn about the people of the mountains and about their customs and country. Pearl Buck's story of Japan, *The Big Wave,* Armstrong Sperry's *Call It Courage* and Elizabeth Lewis' *To Beat a Tiger* are other books that show the character, traditions, and problems of peoples of the Far East.

Older boys and girls can find in books stories that contain the drama and daring of yesterday and today—books like those of Roman Britain by Rosemary Sutcliffe or *The Byzantines* by Thomas Chubb, which begins during the Fourth Crusade in 1203 and describes the wealth and culture of this great empire at the crossroads of the world. *Engineers Did It!* contains interesting accounts of feats like Roman aqueducts and roads, the flying buttresses of the cathedral at Amiens, and the laying of the Atlantic cable, while modern adventures are depicted in books like *Kon Tiki,* or Quentin Reynolds' *The Battle of Britain.*

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[5] See Helen Huus, *Children's Books to Enrich the Social Studies: For the Elementary Grades.* Bulletin 32 (Washington, D. C.: The National Council for the Social Studies, 1961), p. 196.

The World History Bibliography Committee of NCSS, Alice W. Spieseke, chm., *World History List for High Schools: A Selection for Supplementary Reading.* Bulletin 31 (Washington, D. C.: National Council for the Social Studies, 1959), p. 119.

These are but a few of the exciting, well-written, vivid tales that transport the reader for a time into another era, another place, another culture, and allow him to identify himself with these heroes to obtain vicariously some of the emotions, the grandeur, the problems of a different age, a different sphere. When he returns to reality, he will be more knowledgeable, more insightful, more understanding, and more thoughtful than before his flight of fancy, and this, in itself, is reward enough.

Summary

And so it becomes evident that pupils who have the skills of pronunciation and recognition, who can put meaning into words, see order in the content, delve beneath the written word and look at the total with a studied appraisal have acquired the reading skills that make social studies an enjoyable experience. Then when pupils have, in addition, books and books that let them rove through the world and down the centuries, vicariously experiencing the triumphs and disappointments of people who really lived or might have done so, then teachers can say, "We tried to teach them about people. We taught them to read and think. We gave them books and time to read. We helped them when they asked and prodded them when they would be complacent. It remains for the future to tell how well we have succeeded."

22. Developing Reading in a Science Program

DON H. PARKER

Before we plunge into our subject, "Developing Reading in a Science Program," we might pause here to sharpen our focus on the business of schooling. I propose that we think of the 12 years of free school-going we allegedly offer each child simply as *schooling.* Schooling is "what goes on in school." It consists of two things: *training* and *education.*

Having established the idea of schooling as consisting of two major elements, training (skill-*getting*) and education (skill-*using*), we can easily say that reading, the major learning tool of the school process, can be logically divided into the same two elements: the skill-getting or general developmental reading program, and skill-using, or using the skills of reading to learn in a specific content area. To develop reading in a science program, then, a teacher will do two things. First, she will have a good program to develop skill-getting in the general reading skills of comprehension, vocabulary, and word attack. Such a program will be completely individualized so that each child may start where he is and move as far and as fast as his learning rate and capacity will let him.

Secondly, having discovered individual differences among her pupils during the training process, when the teacher comes to skill-using, the use of reading for education in science, she will make sure that she has books at enough different levels to again let each child start where he is in his ability to understand what he reads in science, and to allow him to cover as much ground in as much depth as he can, whether he is a slow learner, average, or superior pupil.

Actually, reading in science may be one of the best ways to teach reading skills because science often deals with things that can be seen, felt, smelled, and otherwise sensed. In other words, the child can connect the word—the symbol of the thing—with the thing itself more often in science than he can in almost any other area of reading. In geography, for example, the concept of a meridian is pretty hard to get across, as even the best teacher knows. No one has yet seen a meridian walking down the street! In science, a magnet—even the idea of magnetism—can be seen, felt, experienced. I think we would all agree that the very essence of teaching reading is to connect the little squiggles we call "words" with something the child already knows. The more concrete the thing is, the more knowable it is. Science, because of its relative concreteness, is eminently suited to the teaching of reading.

When introducing a unit, the teacher will do well to take two or three class periods to introduce the basic concepts of the unit and to develop the specialized vocabulary needed to express these concepts. These words are the basic symbols which are a part of the structure of the unit. They are also the words children are likely to run across often in their reading during the next four weeks.

For example, in weather there are such basic words as atmosphere, molecules, gasses, air pressure, heat, climate, etc. The usual chalkboard and class discussion method is a fine approach here.

This is also the time to develop further word-analysis skills by digging into the meanings of various word parts in our basic word list. The knowledge thus gained can help pupils unlock many new words on their own, for example: therm = heat; meter = to measure. Thus thermal waves are heat waves, a thermo-meter (thermometer) is for measuring heat, a baro-meter (barometer) is for measuring pressure, etc.

After introducing the unit, the topics will be taken up one at a time devoting, say, three class sessions a week to a topic, on Monday, Wednesday, and Friday.

To start off a topic on Monday, there might be assigned class reading on the topic. Individual differences would be provided for by having books about the content of the topic on at least five different reading levels. In our fifth grade class, we would need materials ranging from around second or third grade levels up to eighth and ninth grade levels. We will, in short, approach reading in science with a multilevel philosophy.

After reading of the basic material in the Monday session, there would be class discussion of the content with contributions from even the slowest learners, because they, too, could read and learn and be proud of their learning. Between Monday and Wednesday, there would be time for more individual reading at home, in the classroom, or in the library. There would be out-of-classroom reading; there would be time for observing, asking questions, and even some informal experimenting at home.

At the Wednesday science session, the pupils would share the individual findings and perhaps plan a class demonstration for Friday. On Friday, one or more groups would present a formal demonstration or experiment to illustrate the concepts studied during the week.

All during the four special topic weeks, the pupils are calling on their general reading skills in comprehension. They are using such reading-thinking skills as like-difference, cause-effect, reasoning, and organizing and sequencing ideas.

The child's purpose in using the skills of learning through reading and through other learning pathways is to build *his own concept* of weather. To a child, building concepts means working not only with ideas but also with *things*. Therefore, the four-topic structure we have laid out should give the pupil a sense of direction and movement toward both individual and group goals. Each pupil should feel he is headed toward a project which will afford him a chance to manipulate ideas into a concrete form and structure to depict the thing—or some part of the thing—as he sees it.

For example, that group over in that corner was impressed by its study of the weather by the concept that man needs to control water. Their culminating activity for the unit was the construction of a city waterworks to supply the town from a nearby lake. The part of this idea that appealed most to Jimmy was the great tank standing round and tall above the town. In building a model of this tank, Jimmy not only concretized the most important thing to him, but he also began to see the connection between this tank and the rest of the system—the pumps, the pipes, the filtration plant, the money needed to buy them, and other elements of the concept of water control.

Dr. Gerald S. Craig, Columbia University, recently retired and considered the grandfather of elementary school science teaching, says: "Boys and girls must learn to handle and to experiment intelligently with the forces and materials of the universe. Unintelligent tampering and carelessness bring disease, ugliness, waste of natural resources, unemployment, poverty, war, and widespread unhappiness. They must learn that by working resourcefully and intelligently they can create their own world."

In a recent message, President Kennedy said, "As schools begin to offer a modern scientific education, we can hope that our children will understand fully and participate in future developments. But it is also important that each of us has some grasp of the new scientific methods and discoveries."

If we follow the leads of Dr. Craig and President Kennedy, we have a tremendous job in developing a program of science education. We have just examined ways in which we can develop reading in a science program. But the classroom teacher can't do it all. The reading specialist, the general supervisor, the principal and superintendent, and the parents all can and must contribute their special skills and *take their special responsibilities* for developing reading in a science program.

23. Reading and the Bilingual Child

LAWRENCE M. KASDON

Teaching the bilingual child to read has generally been construed to be helping him to learn to interpret printed symbols in a second language. This process includes the development of concepts necessary to read materials in textbooks and is generally accomplished by adapting those methods used in teaching the monolingual child in the public schools.

Great emphasis has been given to method in teaching the bilingual to learn to speak and read English, but little to a basic understanding of the bilingual's pattern of values. The purpose of this paper is not to tell teachers which method of teaching reading is more effective than another, but to attempt to help teachers to become more aware of some of the bilingual child's cultural background and how this may influence the child's response to the methods and materials employed by the teacher. It is the thesis of this paper that the bilingual child must also become a bicultural one in order to become a mature reader.

Generally, little is understood as to how the learner perceives his role as a student and the teacher's role. For example: What value does the child's culture place on formal education? How do his cultural imperatives operate to determine his behavior in the classroom? How do the mores and folkways of his culture prompt him to react to the methods employed by the teacher? In the process of acquiring the American culture, what factors in the community in which the child now lives are favorable or unfavorable to his becoming a proficient reader?

The strata of society from which the bilingual comes will influence his motivation to learn to read. Soon after the arrival of the missionaries in Hawaii, the ruling chiefs recognized that the ability to read and write represented power. In Hawaiian history there are incidents of powerful chiefs and chiefesses commanding the missionaries to teach them to read. I have worked with students, both bilingual and monolingual, who have told me that their fathers were truck drivers or fruit pickers and that they did not need to learn to read and write to enter such occupations.

On the other hand, I recently consulted with a teacher in Honolulu who had the fourteen-year-old son of a prominent Japanese businessman from Tokyo in her class. His knowledge of science and social studies surpassed that of many of our ninth-graders, but, of course, he could only deal with these subjects in Japanese. She said that the boy was anxious to make more rapid progress in learning to read, and her problem was finding the most efficient methods of helping him to accomplish this purpose. This case represents that of a well-educated boy who possesses many of the concepts found in our textbooks, but even he will need help in understanding certain aspects of American culture. Because the civilization of present-day Japan is quite similar to the American, the process of acculturation will be much simpler than that of a recently arrived Samoan child in Hawaii.

Another powerful influence on the child's motivational pattern is the value his culture places on education, in general, and reading in particular. When reviewing the literature, we note researchers have found that there were few poor readers among those who were bilingual in Hebrew. Our experience in Hawaii with the Chinese, Japanese, and Koreans, especially first and second generation, suggest that these three ethnic groups also place great value on education. The "egghead" is a high prestige figure among them and is greatly respected. This is in contrast to the Spanish-Americans of the Southwest who appear to place little value on learning to read. This latter group is further discouraged by economic discrimination in those occupations in which much formal education is necessary.

Other mores and folkways of the culture of the bilingual child may have negative effects on the child's learning to read. Among the Spanish-Americans, the child who tries to speak English outside of the classroom may be told, "What's the matter? Are you ashamed of being a Mexican?" In Hawaii, pidgin English is commonly used by a large segment of the population. Children who attempt to communicate with their peers at play in standard English may be told, "Wassa mattah you? You talk like one damned Haole (Caucasian)?"

Still other mores and folkways may have direct influence on method. Oriental children are fearful of losing face by making an error when called upon to recite. The Samoan children, who are presently migrating to Hawaii in fairly large numbers, are extremely shy about reciting, even when they are well-acquainted with the teacher. On Niihau, where the Hawaiian language is still the native tongue but English is the language of instruction in the school, the children whisper when called upon to read orally. Imagine what results when teachers try to teach reading by the "reading-around-the-circle" or the "read-and-recite" method.

Discussion designed to stimulate critical analysis, aside from creating a fear of losing face, may also be construed as lack of good manners if, for example, a child raised in the Japanese tradition is expected to disagree with a classmate. Disagreement with the teacher, who occupies a high prestige role, might be construed by the child as demonstrating outright disrespect. Thus, using oral discussion to develop critical thinking may not be too successful in many public school classrooms where children of Oriental ancestry are the majority group.

The problem of teaching critical thinking is further complicated by two other values that many Oriental children possess —one is that the textbook is sacrosanct and the other is that learning represents memorization. In their minds, the author's opinion is not to be challenged, for this would constitute gross disrespect to a learned scholar. The author's words of wisdom are to be learned—not questioned. Many of our teachers of Oriental ancestry hesitate to disagree with what is in the textbook and feel that the reading textbook should be followed meticulously since the author knows more about teaching reading than they do.

One of the objectives of the reading program is to develop independent readers. "There is to be no talking while you read this story and answer the questions in the workbook on page 29," directs the teacher. Yet among the Polynesians, one is expected to share whatever he possesses. Among the Samoans, for example, cooperation is part of their *ethos*. The teacher working with a class that has Samoan children faces the problem of helping them to understand why helping one another is not acceptable behavior in this particular situation but a virtue in another.

While the bicultural child may be quickly helped to become acquainted with artifacts of the American culture, such as split-level-ranch-style homes, freeways and deep freezers through field trips and audiovisual aids, he may have difficulty in understanding some of the social relationships portrayed in our reading textbooks. To take an extreme example to illustrate this point: in a Samoan family an older daughter has the responsibility for raising the younger children after they are weaned. Furthermore, children are taught to keep out of the way of adults; the Polynesians have an affection for children but draw the line between the society of adults and the society of children. How strange the pictures of nice middle class Anglo-Saxon families doing so many things together must appear! When reading a fairy tale about a poor girl marrying a prince, it would seem incredible to a Samoan that this girl could live happily ever after if she did not share her new found wealth with all the members of her family.

A further problem faced by children of Hawaii is the use of pidgin English. A child arriving in the islands will have to learn pidgin in order to be able to communicate with his peers. While it is not within the province of this paper to argue to what degree a person must speak pidgin, it must be pointed out that pidgin has its grammatical structure and that the vocabulary of pidgin is extremely limited. Most words in pidgin have one rather general meaning. So that if our Samoan immigrants learn pidgin English at home, they in effect become tri-lingual, and the difficulty of teaching them to read is compounded.

In Hawaii, the continuing presence of bilingualism and biculturalism place an important responsibility on the public schools. Frequently, children representing several cultural groups are in the same classroom. Because the majority of our teachers are bilingual or bicultural, or both, they have insight into the pupils' problems since they have faced these problems in their own lives.

The principal of one of the rural elementary schools which has a large number of Samoan and part-Hawaiian students is experimenting with some new techniques in helping to develop some phases of reading for kindergarten-primary bilingual children.

Children's stories are played on tapes and records. Groups of 12 children can listen, through headsets, to these recordings as part of the regular class routine, while the teacher works with other children. The principal encourages the teachers to allow the children to listen to the tapes as frequently as possible. The children acquire a wider literary background, a feeling for plot development in a story, and a sensitivity to patterns of standard English.

During the formal reading lesson the primary teacher prepares the group for a new story in the textbook. Then the children put on their earphones and, following the directions on the tape, read silently. As they read, the children answer questions to themselves. The teacher's voice then suggests one or two correct responses to reinforce learning. After the children have completed the taped lesson, they go to the reading circle. The principal hopes to be able to purchase double-track tape recorders so that the children's responses can be taped and played back to them.

In Hawaii, we are faced with all of the problems indicated in adapting teaching practice to the bilingual/bicultural child. Except for the experimental work described above, our programs for the bilingual child is little different from mainland practices. Hence, little space in this paper was devoted to this aspect of the subject.

One other very important point needs to be made. Cultural diversity in a community can be a strength. While the school is transmitting American culture, it needs to help students to identify and preserve valuable elements of their parent culture, including language.

24. English in the Schools: Next Steps

G. ROBERT CARLSEN

In the course of its seventy-five years as a major subject of the school curriculum, English has shown its vitality through the numerous transformations it has undergone. Everyone is convinced of the vital importance of the subject to the welfare of a democratic society and to the whole personal development of an individual, but only small groups of English teachers ever see eye to eye about the means to accomplish these ends. In the last seventy-five years English has been taught as a discrete body of subject matter with no limits to the subject matter at all. Teachers have tried rigid group instruction in which everyone must do the same thing at the same time, and they have tried individualized instruction in which individuals work at their own speed on their own language needs and interests. They have investigated large group instruction and have advocated small group instruction. They have experimented with the use of audio and visual aids and swung back to verbal instruction as the only sound method. Such controversy is not discouraging but rather indicative of a profession that recognizes that only through experimentation can its full potentialities be realized.

Last year approximately 250 recognized leaders in the field of English were polled for their opinions about their subject. Results were surprising in the uniformity of opinions expressed. These people indicated overwhelmingly that the area most in need of strengthening is composition; that the area of greatest present success is literature; that the material which should be dropped from present courses of study is Latinate grammar with its concomitant activities of diagramming, nomenclature drill, parsing of sentences, and memorizing of definitions that do not define. This group felt strongly that the greatest improvement in the profession could be made through stiffening certification requirements and reducing the class load. They also indicated that the present work of modern linguists offers the greatest promise for improving the subject and its presentation as a whole. It is interesting that the leaders surveyed seldom mentioned such things as team teaching, machine teaching, educational television, the Rutgers plan, and such related schemes as having much importance in solving the main problems of the field of English.

Using the reactions and thinking of the leaders in the field as a base, I would like to project some speculations about the future developments in English.

1. The next years should see increasing interest in the presentation of information about the history, nature, and the use of language to young people in the elementary and secondary schools. Surprisingly enough, English teachers have seldom attempted to teach the interesting and intriguing body of information that scholars have assembled about man's language—where it originated, how it developed and spread, how languages are classified, the strange similarities and striking differences that exist among them, and how languages can both facilitate and hinder human relationships. This body of content differs markedly from the traditional one that considers language in terms of its control and use. As Noam Chomsky said at a recent meeting, "Language is a large part of every individual's personal being. Therefore to know something about language is to know something about self."

Where such material has been taught, at least in part, teachers have discovered that part of the information is well within the grasp of youngsters as early as the third or fourth grades and that in the upper levels of the school system it has tremendous interest for the students. I firmly believe that this will be a natural and important addition to the content of the English curriculum in the near future. Obviously there needs to be an increase in the experimentation in this area . . . units of work sequentially arranged from grades three or four through the high school, each dealing with a different body of concepts taken from linguistic studies, need to be organized and tried.

2. The past five years have brought a renewed emphasis on composition. Recommendations that students write a theme a week have become a reality in many schools. But sometimes sheer quantity of practice is substituted for active and perceptive teaching. The next leap forward may well be in the development of new insights into the nature of composing. There is a need to develop sure and precise techniques for helping students develop skill in the many facets of composing. For example, the artificial separation of oral and written language must be restudied. The contemporary linguist demonstrates the primacy of oral language. Language is basically a structuring of discrete sounds in a series of basic patterns. In oral language basic signals of meaning are given by pitch, stress, and juncture. In written language these are transcribed into symbolic patterns that are more calcified because writing is a step further removed from the actual meaning conceived in the oral speech. Perhaps it logically follows that oral composition should take place before written composition is attempted. I believe that we are going to develop a methodology that helps students with written language through helping them first with oral language.

Furthermore, most composition work throws students into the whole briar patch of complexities of writing when they are asked to write a paragraph, a letter, a theme. They must exercise simultaneous control over the intricate factors of structure, rhetoric, and meaning. A major advance may be found by isolating the individual factors in the process of composing so that students can practice one aspect at a time, then move into combinations of the parts.

3. Certain changes seem definitely in the wind in the literature program. One of these is the noticeable movement away from many short selections or bits of literature. We are becoming aware that reading a hodgepodge of shorter pieces does not seem to produce the impact that literature should have. Selections that have the greatest staying power and are most memorable for students are those of sustained literary performance. If one asks, "What works of literature have been most memorable in my own reading?" the answer is likely to contain far more novels, full length plays, and long pieces of poetry than individual short stories, essays, bits of biography, or even lyric poems.

However, there are potential dangers in such a program if this means the return to prolonged study of a few works of literature, selected in common for all students. Such was the program in effect during the first decades of the century, and it ultimately not only killed the few "chosen" selections but also drove countless young people away from any enjoyment of literature. On the other hand, the teacher who chooses longer selections on the basis of the individual class he is teaching and the one who devotes his efforts to stimulating and guiding the individualized reading of students can make literature an exciting part of a student's life. A most interesting new study has followed the young people who were a part of Lou LaBrant's experiment in guided free reading at the Ohio State Laboratory School in the mid-thirties. LaBrant finds this group of "guinea pigs" to be present-day adults significantly different in their intellectual life from their peers. Here is evidence that should give us pause in the rush toward a return to a rigid *explication de texte* of a predetermined literary canon of required reading for all.

4. I believe that English will rediscover the importance of creative language activity for young people. In the past few years there has been a trend toward expository writing and expository writing alone. However, psychologists like Jerome Bruner emphasize that the end of education is the process of discovery. Leaders in math and science are moving in this direction by having students postulate their own assumptions, devise their own number system, and build from there. Investigators in the area of human talent show increasingly that a factor of creativity is of primary value in the achievement of individuals in a society. Human language is the basic raw medium of creative thinking. Through language, human beings can take the disparate parts of their experience, the past and the present, the real and the unreal, and mold them into an infinite variety of patterns for contemplation. This is the real essence of the creative use of language. I think we shall be forced to new structuring of creative language activities by the very philosophical trend of the times in which we live. For Western man has lost his reliance on religion as the criterion by which he evaluates his experience. In its place for the last hundred years he has put his reliance in the objective study of reality through the medium of scientific investigation. But modern science now doubts that the human mind is so constructed that it can begin to comprehend the order of reality if there be such. So man is increasingly pushed toward the acknowledgment of his own consciousness as the only thing he can know and with which he can deal. In such a frame of thinking, surely the imaginative manipulation of human consciousness becomes one of the primary values of human fulfillment.

5. Increasingly the language arts will be interrelated in their presentation. The practices of teaching composition and literature in separate semesters, of dealing with reading as a separate subject matter area, and giving oral language in an elective course are questionable. At the meeting of the College Conference on Composition and Communication in Chicago early in April, numerous speakers pointed out that composition has no real content in itself. They often suggested that the most logical place to find a content for writing was in related literary experiences. In several of the most forward looking schools, a cycle of teaching moves from literature, to discussion, to composition, to a concern with the mechanics of expres-

sion and the structure of language. Thus they have developed a flowing-interrelated pattern. Organizing many concerns of the English program into blocks in which several concerns are fused in a common undertaking produces a greater change in adolescent behavior than does the program of concentrated attention on one thing at a time.

6. Finally, I feel that there is every indication that English will in every sense become a real profession. The National Council of Teachers of English has grown to a membership of 76,000 members and subscribers, making it the largest professional subject matter group of teachers in the world. A new professional spirit seems to motivate English teachers to look critically at their subject, their methods, their place in the academic picture.

What will happen in the future and what we hope to make happen are perhaps two different things. A feeling is abroad that should make the teaching of English with greater surety a real possibility. By clarifying objectives and developing learning experiences a teacher will know what outcomes to expect when using particular techniques. Such knowledge is now at our command in teaching literature and it will increasingly be at our command in language and composing. The relationship of language and the total growth of human personality is becoming increasingly important. Bit by bit we shall develop techniques so that the students' learning of language will help them gain freedom in thought and expression rather than be hampered and confined by it.

Human life is lived on a fantastically intricate web of communications: communications from the past, communication with the present, and communications toward the future. The individual must use the web, like a spider, to facilitate his life process, or like the fly, he may be enmeshed and stifled by it.

25. The National Interest and the Teaching of Reading

JAMES R. SQUIRE

This is a time for priorities in education. "Some subjects are more important than others," wrote John Gardner for the President's Commission on National Goals. "Reading is the most important of all."

Let me say at the outset, lest any subsequent comments be misunderstood, that I believe we are doing a better job teaching reading in today's elementary and secondary schools than we are doing in teaching any other aspect of the language arts. We are doing a better job of teaching young people to read, for example, than we are doing in teaching them to spell. We are doing a better job than with oral language. We are doing better with reading than with literature, even though we sometimes confuse the two. And certainly we are doing better in teaching reading than in teaching composition. I am not impressed by those who claim that our present reading programs are leading us inevitably to disaster. Considering the avalanche of students that has overwhelmed our schools during the past two decades—so much so that we have had difficulty in providing them with classrooms, much less with books and teachers. Considering the conditions under which reading has been taught, it is perhaps remarkable that we have accomplished so much.

But this is not to say that we should be satisfied with the teaching of reading in today's school. Indeed were we satisfied, I suspect that the thousands now attending this conference in San Francisco might well have stayed home. Considering the millions of dollars in support and the millions of hours in time which have been poured into the reading field during the past fifty years, I believe we should be doing a far better job of teaching than we presently are. I am not impressed with statistics which reveal that children taught in 1957 are accelerated six months in reading over similar children tested in 1937, except as these figures dispel ridiculous charges of critics. Considering the enormous effort that we have put into reading —far greater I suspect than in any other area of education—the gains during the past twenty years should be far greater. And I suspect, too, that one could reasonably argue that the six months of acceleration may be more easily attributed to changes in our culture than in school programs—changes in transportation and communication which have extended and reinforced the experiences of young people today and thus have developed their vocabularies and thinking well beyond the achievement of their parents a generation ago.

It is not difficult to demonstrate the importance of reading to the national interest. Of all of our controversies in education, this is the most persistent and widespread. Surely we must admit that the reading problem about which we speak today has long since ceased to be merely a problem for the reading teacher and has become part and parcel of the crisis in English teaching in our total educational system—and unless we in the profession react intelligently, forcefully, and responsibly to meet the challenge, what may at first seem to be just another administrative and teaching problem may turn into a nightmare for us all.

Since first agreeing to participate in this program several weeks ago, I have collected at least two dozen recent statements made by opinion leaders in America about the inadequacies of our programs for teaching reading. One report claims that "one third" of our children are poor readers; another that present textbooks are "sterile" and poorly written. A third asserts that "we are not a country of book readers" and seems to blame the schools. The sudden popularity of reading improvement programs for adults testifies to the concern aroused by the American public. And with such concern, rightly or wrongly, comes the suspicion that somehow the schools have failed in their responsibility. Reports have reached us that eleven million American adults are functionally illiterate, with percentages of the total state populations ranging from 5.9% to 28.7%,[1] a problem of such concern to our political leaders that one of the major pieces of educational legislation sponsored by the Federal Administration this year is a bill to reduce adult illiteracy. Indeed three weeks ago in testifying before a subcommittee of the United States Senate on a different proposal, I was impressed by the disturbed and searching questions asked by our Senators about educational handicaps resulting from reading disability. Their concern stemmed from a recognition that deficient readers are handicapped not only in school, but in life as well. The lawmakers seemed worried that as many as eleven million functionally illiterate Americans apparently must depend on motion pictures, television, and radio for their information and that great numbers of these individuals are among those displaced from the soil by changes in our agricultural economy, displaced from their unskilled jobs by the new forces of automation, indeed displaced from their familiar way of life—but lack the necessary basic skills which can lead to retraining and successful rehabilitation and preparation for a new useful role in our society.

For my part, I shall comment only on three major concerns:

Our schools are doing less well to prepare teachers of reading than they should.

Our colleges are doing less well to prepare teachers of reading than they should.

Our public can obtain better instruction if it is willing to support and demand it.

The Nation's Schools Are Not Doing as Well as They Should

Even a casual survey of today's practice and research demonstrates the extent of our problem. According to one recent estimate, one-third of our children are poor readers,[2] and an abundance of evidence indicates that from one-fourth to one-third of the students in virtually any given high school tend to be academically handicapped in this important skill.[3] Earlier this spring the Secretary of Labor Arthur Goldberg reminded the nation that three million adults cannot read the label on a bottle of medicine, a help-wanted ad, or the report cards that their children bring home from school, and that eight million Americans over 25 years of age have never attended school beyond the fifth grade.[4]

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[1] William E. Gowan of DePaul University, *Chicago Sun-Times*, February 18, 1962.

[2] Stanley Krippner, Director of Reading Clinic of Kent State University in a news release dated January 24, 1961.

[3] Loren V. Grissom, "Reading Improvement Programs in the Secondary Schools of Illinois," *Illinois English Bulletin*, Vol. 49, No. 5, February, 1962, pp. 1-2.

[4] Testimony presented to an Education Subcommittee of the House of Representatives in February, 1962.

Now the reasons for present conditions are many and complex. Dislocations in society itself, insufficient preparation of teachers, impossible teaching conditions—all these take their toll. Certainly we are doing as well as we ever have, but objective statistics demonstrating that young people today read as well or slightly better than young people two decades ago must be evaluated against the enormous increase in our knowledge about reading which should make our instruction much more efficient. Moreover, studies suggest that many schools are doing far less about reading improvement than they might, especially at the secondary level. For example, despite the demonstrated fact that retarded secondary readers can make substantial improvement if given the opportunity to do so, a recently completed survey in one of our largest states has just reported that 81.5 per cent of the secondary schools recognized the problem but had not the slightest plan for doing anything about it.[5] If this pattern exists throughout the nation, then those children who experience difficulties in learning to read at the elementary level may look forward to little or no help at the secondary level, despite our endess talk and writing and discussion about developmental reading programs.

The Education of Teachers of Reading

One reason why reading may be less well taught than it should be is that so few of today's teachers are adequately prepared for this responsibility.

Even though the President's Commission on National Goals calls reading "the most important subject" in the elementary school, even though the traditional emphasis on reading as one of the "three R's" —only 76.3 per cent of the nation's teacher training institutions—or, rather, almost one-quarter of our institutions do not require such special preparation.[6] Only nine state certification agencies actually require prospective elementary teachers to complete a course on the teaching of reading. Now it is true that most institutions not requiring a special course do include such instruction in a general course in the language arts, but we can take small comfort from this knowledge now that Mary Austin has demonstrated that the majority of such "integrated language arts" courses devote less than 12 class hours to the teaching of reading.[7] Consider with these facts also the almost certain probability that this elementary teacher has not studied the nature of the English language which she is teaching students to read—its sound structure and lexical structure—nor has she usually completed more than six hours in literature.[8]

But if the preparation of most elementary teachers in reading is often deficient, what can be said about the secondary teacher of English, on whom almost inevitably falls the major responsibility for reading instruction in the schools. He receives virtually no preparation at all. In only a minority of the institutions currently preparing teacher education candidates is the prospective secondary teacher asked to study the teaching of reading. This, too, is part of the problem.

The Conditions

And what of the conditions under which reading is presently taught. We have abundant evidence that an increasing number of our children come from homes in which reading is relatively unimportant —homes without books, homes in which reading is seldom discussed. Too often we send these children to overcrowded classrooms with overcrowded and underpaid teachers, often without adequate textbooks and library facilities. Surely one of the most shocking of all current educational statistics is that in this wealthy country of ours, we are sending more than 10 million elementary children to schools which lack central libraries and over 150,000 high school students as well.[9] And these figures do *not* include the data on small, rural, remote schools which understandably have special problems. The average amount per child that we are now spending each year for a library book is $1.45—about half the cost of a single book. The annual public expenditure per student for textbooks is $1.60. How far will this go in today's market? Surely we can agree that to learn to read, children must have the necessary books.

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[5] Loren Grissom, *op. cit.*, p. 3.

[6] Committee on National Interest, *The National Interest and The Teaching of English*. Champaign: National Council of Teachers of English, 1961, p. 46.

[7] Mary Austin. *The Torch Lighters*. Cambridge: Harvard University Press, 1961, p. 5.

[8] Committee on National Interest, *op. cit.*, p. 102.

[9] *Ibid.*, p. 100.

The national interest demands that something be done to strengthen our present programs in reading. It demands that we strengthen our programs of preparing elementary and secondary teachers of reading. It demands that we make available books, so that children will have suitable materials to read.

But even this is not enough. Related to our central task of developing literacy is that of creating the desire to read. In this context I would like to close by quoting what seems to me a sage observation by an observer in the British Colonial Office written shortly after the appearance of a UNESCO report on literacy. I think it offers food for thought.

> Is a man literate if he can read, or could once read, but does not? In our April issue we were told of an African people who claim that they could count their cattle, but they never do so because it would be unlucky. Are they to be regarded as "numerate"? Some countries claim that they have no illiterates because all their children attend school. Yet we know that people can relapse into illiteracy if they make no use of their reading skill; just as I was once able to use the binomial theorem, but have now completely forgotten what the binomial theorem means. For Unesco's purposes, to say that *x* per cent of a country's people have not learned to read at school and have not obtained a literacy certificate from an adult literary class may be a convenient index of the country's educational progress. But it is a very inaccurate index. To learn to read is one thing: to have access to reading matter is another: to have the desire to read is yet a third. The important question is not Can you read? but Do you read? and, still more, What do you read?[10]

26. Literacy in the Modern World

PAUL CONRAD BERG

Aristotle defined justice as "giving each man his due." Its twin principles, liberty and equality, are the core of democratic theory. A democracy finally comes of age when its members reach out to bring to others the full realization of a way of life where each may receive his honest due as a free and equal man.

We have reached out to nations new or struggling to be born, and for all our pains we find that too often those whom we would help turn to enslavement instead of liberty, and to oppression instead of equality. Reinhold Niebuhr asks in his essay "Reflections on Democracy as an Alternative to Communism" whether the free world can hope for the evolution of democracy in any of the newer and poorer nations. His answer is in part a clear indication of literacy's place in a modern world. "High standards of literacy," says Niebuhr, "are required to prepare all classes to participate in the dialogue about justice, and particularly to enable the 'lower classes' to make their claims and make them effective. . . . If democracy derives political authority from the 'consent of the governed,' the governed must have at least minimal competence in judging the performance of their governors and in estimating their own place in the political organization" (12).

The impact of illiteracy upon all nations and peoples is receiving increased attention. Studies by the United States Department of Health, Education and Welfare indicate that illiteracy breeds suspicions and tensions, retards world understanding and cooperation, endangers democracy, weakens national security, and slows technological progress (10). Various other studies find that illiteracy is tied to poverty, ignorance, superstition, endemic disease, malnutrition, archaic agricultural practices, and infant mortality ([illegible]). A resolution presented to the general conference of a UNESCO meeting in Paris in 1960 shows that the very stability and welfare of newly developing countries is keyed to their levels of education and literacy (7).

Yet for all of its known dangers, illiteracy still claims one out of every two persons in the world today. A study by the United Nations indicates that the world, instead of gaining in literacy, is being pushed back from a point it once had reached. At the turn of the sixties, 55 per cent of the world's children were going to school. Because of the population explosion, by 1962 the school enrollment will have fallen close to 53 per cent (15). Seventy-five per cent of these illiterates live in Asia, 15 per cent in Africa, 6 per cent in North and South America, and 4 per cent in Europe. Asia alone contributes 510 to 540 million illiterates, or approximately 65 per cent of her adult population. Eighty to 85 per cent of Africans are illiterate, and Latin America shows a 40 per cent illiteracy (6). Seventy million Latin American adults cannot read, and 19 million of their children are without schools (1). In 14 selected countries throughout the world, only 37 per cent of their primary age children ever attend school, and in some of these areas, only 6 per cent attend schools, with 2 per cent of their women literate (7).

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[10] *Oversea Education*, XXXIII, No. 2, July, 1961, republished by the Laubach Literary Fund, Inc., 144 16th Street N.W., Washington, D. C.

We should like to assume that this is a problem of peoples other than ourselves and that all of us in the United States are capable of participating in the dialogue about justice of which Niebuhr speaks. Unfortunately, this is not the case. Eight and one half million people, or eight per cent of the adult population of the United States, are functionally illiterate; that is, they are twenty-five years of age or older and have had less than five years of formal education. Louisiana, Mississippi, Alabama, Georgia, and South Carolina, with illiteracy rates of 21.3 per cent, 18.8 per cent, 16.3 per cent, 17.6 per cent, and 20.3 per cent respectively, lead the nation in illiteracy (16). There are counties in these states, for example, which have as low a literacy rate as does eastern Asia.

According to some researchers, these figures on illiteracy do not reflect the whole truth. Our own experiences remind us, for example, that many who have learned to read only minimally can no longer do so, and that there are those who have not learned to read even though they have completed fourth grade. Fifteen per cent may be a figure more nearly in keeping with the facts of illiteracy in the United States (5), and 60 to 65 per cent a more realistic world figure (6).

Were illiteracy a monolithic phenomenon, attack on it could be direct and simple. On the contrary, illiteracy is only one symptom of a socio-economic maladjustment of various intertwining factors. Ignorance and disease, coupled with problems of racial, linguistic, and religious factionalism, and ethnic and linguistic diversity create a Scylla and Charybdis in which the illiterate has no time or energy or motivation for learning. Among many of these people there is no acceptable alphabet, which further complicates any literary instruction (2). Another factor is an increasing birth rate. In Latin and South America, for example, increased efforts to provide more educational opportunity have met with only slight net gain because of an exploding population (1).

A technical involvement is a world shortage of paper. The United States, with 10 per cent of the world's population, consumes 70 per cent of the world's paper. Asia, with 55 per cent of the world's people, uses only 3 per cent of the world's paper resources (2). Coupled with this shortage is a great need for easy vocabulary adult materials including graded books and simple magazines (9). The Communists are in many instances filling this vacuum with their own printed propaganda (2). Wolfgang Paul, protesting the plight of the East Berlin bookseller left with only Communist books to sell, states that "mankind is enslaved if denied access to books. Only when he is given the possibility to read what a civilization expects and demands of him can he be made free" (14).

The need to do something about illiteracy and its attendant problems has caught the imagination of various individuals and groups. Internationally, Frank C. Laubach has probably contributed more than any other person. In 1920, Laubach, then missionary to the Philippines, devised a simplified method of teaching reading and writing in any language. Based on the concept of "each one teach one," his techniques are estimated to have helped more than sixty million persons learn to read and write (8, 9).

Jimmy Yen, leading the Philippine Rural Reconstruction Movement, has also shown remarkable results in his war on illiteracy and its attendant problems. Two years ago, the Phillippine Program was given the Presidential Award of Merit (4). Included among the many other pioneers in the fight on illiteracy are Lorenco Filho of Brazil and Jaime Torres Bodet of Mexico (2).

Interest has also been gaining momentum in the United States. In 1959, one thousand school districts, representing every state, offered programs for the adult illiterate. Many of the nation's major industries are adding literacy programs to their educational offerings, and several public and private organizations are using television in the drive for a literate citizenry (13, 3).

In January of 1962 President Kennedy announced his decision to ask Congress for 50 million dollars to help eliminate illiteracy in the United States. This money would be used for grants to colleges and universities to help prepare teachers for adult education, and to make available grants to the states for pilot studies in teaching literacy classes.

During 1961 UNESCO launched a drive in the independent African nations to bring about compulsory education. An older program proving UNESCO's value in this field has been its attempt during the past four years to improve and extend primary education in Latin America. Due to its efforts, primary attendance has increased in some Latin American states as much as 42 per cent. The Organization of American States is also planning a crash literacy program in these areas (15).

American colleges and universities are contributing to the literacy movement. Baylor University initiated a literacy center for the training of teachers in 1957. The Wycliffe School of Linguistics in Oklahoma, and the Universities of Michigan, Pennsylvania, Yale, and Syracuse are among those offering training in some phase of literacy education. Other colleges, mission schools, and foundations might also be included in this listing (9).

For a successful world-wide attack on illiteracy, solutions to pressing problems are needed. First, there must be ground for growth in literacy through universal and compulsory school attendance, with literacy standards revised upward. Continued experimentation in language selection for polyglot groups and a study of methods used in teaching the language selected are necessary if long-range programs are to be effective. There is also great need for persons who will write materials for the emerging literate. *News for You*, America's only weekly newspaper in easy English for adults, is an illustration of the type of literature needed (11). Directors, native teachers, and book distributors are needed, for the weakest link in the literacy chain in the no man's land between the publisher and the reader.

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27. The Big City Story—Philadelphia

ROSEMARY GREEN WILSON

I am a lucky person in at least one respect. I occupy (during my working hours) a room with a view. From my office window I look out over one of the loveliest parkways in any American city toward a many-columned art museum that crowns our own small Acropolis. A superhighway runs almost beneath my window and extends a perpetual invitation to get into a car and follow it—as far as Chicago without encountering a light or a crossroad! A broad river with the strange name of Schuylkill flows by just two blocks away dividing central Philadelphia from the vast area of West Philadelphia.

Yet as I look at all these evidences of a great city, another view keeps slipping between my eyes and the actual scene before me. This is a picture of the city which has been forming in my consciousness during many years as a student in our schools and later as a teacher and a supervisor in those same elementary, junior, and senior high schools. It is a picture which has changed in those years from a city containing many tightly knit and stable communities within its limits to a city in the throes of a tremendous shift of population. Toward the close of World War II and in the years immediately following, thousands of families pulled up stakes in the city and the great mass exodus to the suburbs was under way. Into the innumerable row houses which characterize Philadelphia and which were left vacant by this movement came a new labor force for our expanding industries. Though representing many sections of the country, the majority of these in-migrants came and are still coming from the states of the Deep South.

No group in our city has been more aware of these changes than those of us in the public schools who are in daily contact with some of the children of the privileged in our community and with all of the children of the underprivileged. Yes, the view from my window includes more than art museums and superhighways, it is made up of the faces of a quarter of a million boys and girls for whose education we are responsible. It is an awesome task and yet it is today "The Big City Story."

The Problems of the Schools

To do justice to the total problem of education in a big city today would require the contribution of many professional workers from the Superintendent to the classroom teacher. However, my assignment for this meeting is not that, but instead a discussion of those phases of the total problem which lie in the field of reading. Under the most favorable circumstances this assignment would be difficult and the variables to be found in any big city school system contribute to that difficulty and compound it.

In reviewing the situation for the purpose of preparing this paper, the problems in the area of reading seemed to group themselves as follows:

1. Student population
2. Articulation—between and among the levels of elementary, junior, and senior high school
3. Program

It is my purpose in this presentation not only to discuss the problems in these areas, but to describe some of the means we have devised to cope with them.

Student Population

Basic to any curriculum program and particularly so in the field of reading is the nature of the student population of the school district. The facts which I cited at the beginning of this paper concerning the changes taking place in the adult population of our city are reflected, of course, in the children and young people who comprise the student body of the public schools. Intellectually, they run the gamut from those who enabled one of our high schools to have the second highest number of Merit scholarship winners in the nation to those who make up our classes of "retarded trainables," that is, those not considered educable by even the lowest standards. Economically, these students represent some from very privileged homes in the city with a few from suburban areas who pay to attend our Central and Girls High Schools to those from backgrounds of such abject poverty and deprivation that few among us can actually realize or understand their situation. Culturally, the range extends from children of very well-educated and professional parents to those children of completely illiterate parents often recent in-migrants from rural areas of the Deep South. These, then, are our children.

Articulation

Curriculum programs in a city as old as Philadelphia have, of necessity, developed by a process of evolution. Change comes about gradually as adjustments are made and new ideas are woven into the fabric of the old to meet the needs of a changing world and a changing population. This is certainly true of the reading program, Kindergarten to Twelve, in our elementary and secondary schools. Within the framework of the Curriculum Office, an all-out effort is being made at the present time to accomplish the following purposes:

1. To make a completely articulated reading program from Kindergarten to Twelve a reality
2. To provide the training for teachers that will make this possible
3. To provide the special services in reading which are required

If there is any one valuable attribute which I bring to my job of directing the reading program from Kindergarten to Twelve, it is my classroom teaching experience at every level of our school system from elementary through junior and on to senior high school. The only truly "articulated" teacher is the unfortunately rather rare soul who has enjoyed little children in their still formative and hopeful years, has wrestled with the well known growing pains of the young adolescent in junior high, and has known the disappointments of the "drop-outs" in senior high school. Since any other articulation is, of necessity, academic, ways must be devised to get teachers stirred up about the idea of a continuing reading program from Kindergarten to Twelve and concerned about techniques which they can employ to make it a reality. I need hardly say that with over 200 elementary, 26 junior, and 21 senior and technical high schools the task is herculean. In the face of such a challenge, in fact, there are even days when I feel fortunate if I have brought about better articulation between the teachers of the first and second floors of one elementary school.

Seriously, however, the following specific steps have been taken to bring about this much desired understanding and continuity:

1. New cumulative records which will contain on *one* card the standardized test results from grades one to twelve. These take the place of a former two card system (elementary and secondary) and enable any teacher to see at a glance (in the form of a line graph) the progress of a child in reading, spelling, arithmetic, and allied areas for all the preceding years. It is hoped that through the use of one card, secondary teachers will have a better picture and a greater understanding of a student's achievement or lack of it in the all-important elementary years.
2. For many years committees of administrators and teachers working on curriculum guides in reading and the language arts have reflected the Kindergarten to Twelve philosophy through the inclusion on the committee of representatives from all levels of the school system.
3. The bi-monthly district meetings of principals of schools representing both elementary and secondary are designed to acquaint each group with the professional problems and programs of the other.
4. A concerted effort is being made this year to coordinate the remedial reading programs of the elementary and secondary schools by arranging for elementary reading teachers to hold their district meetings in junior high schools for the purpose of finding out what happens to children in need of special reading help after they leave the elementary schools. In addition, junior high school reading teachers regularly visit neighboring elementary schools to find out in advance as much as possible about the children who will need remedial reading work when they enter the secondary schools.

Articulation in the area of reading is no problem from grades 7-12 in our schools since from its inception in 1948, the secondary reading program has been coordinated. From 1948 to the present time a monthly professional meeting for the seventy reading teachers of the junior and senior high schools has provided continuity and a shared in-service training program.

There is still much to be done, however, in our efforts to achieve better articulation between the levels of our large school system. The mobility which once characterized many teachers in going from one level to the next has been practically eliminated by the adoption some years ago of the single salary schedule. Therefore, means other than actual experience must be found and put into effective practice particularly in the field of reading to provide the continuity in teaching that the sequential nature of the reading process demands.

Program

What then of the program in reading which must form the real mortar to hold together the bricks of our system? As of this year the beginning years in our schools are designated the Continuous Progress Primary or, in other words, the ungraded primary. Closely related to a basic reading system with achievement in reading the most important, though *not only*, criterion for advancement, the first three years of the elementary school have been divided into nine levels of reading. These levels correspond to the reader levels of a basic series from pre-reading to Book 4 and above. With the emphasis upon the *progress* of the individual child with no repetition of grade or work, it is anticipated that a few gifted children may complete the three years' work in two, most will finish the primary unit in the usual three years, and some children will require four years to reach the point in reading and arithmetic where they are ready for grade 4. In addition to progress from one reader level to the next, great emphasis will be placed upon growing independence in word recognition. All the other aspects of the language arts program remain very much a part of the picture, of course, but for pupil placement and reporting to parents the basic program is the yardstick.

At the secondary level, Philadelphia, along with every other school district in Pennsylvania, provides two periods of developmental reading per week for every student in grades 7 and 8. Though this is now a state-mandated program, developmental reading or reading improvement for every child has long been a part of the junior high school curriculum in Philadelphia. To assist the classroom teachers who must carry on this program now, a guide entitled *Developmental Reading, Grades 7, 8, and 9* was written and put into their hands. In addition, two television series (including one this year) have been devoted to teacher education in this field. Reading teachers in the junior high schools, also, assist the classroom teachers of developmental reading by means of demonstration lessons, conferences, and help in the selection and use of materials.

The senior high schools offer a variety of reading improvement programs ranging from a few of the developmental or all-school type such as that described in *The Reading Teacher* for January 1961 to many high schools providing elective, two-period minor courses in speed reading, study skills, advanced reading, and research reading.

Special Services in Reading

For the student requiring special help in reading because of retardation in relation to his ability, special remedial reading help is offered in small group situations both at elementary and secondary levels by the reading teachers to whom I have referred. Recruited from the school faculties at elementary level, but selected by competitive examination at the secondary level, these teachers are truly the reading resource people in their schools. In addition to their teaching of retarded readers, they offer such other services as individual testing of pupils referred by classroom teachers, demonstration teaching in regular classes, techniques and assistance to teachers of slow-learning students, advice and help on selection of materials, leading in-service courses in their schools or districts.

For the student severely retarded in reading at either elementary or secondary level, the Philadelphia Public Schools Reading Clinic offers its services. To the Clinic located in a center-city high school go children from every section of the city for a complete analysis of their problem including psychological, achievement, and projective type testing. Some of these pupils are then scheduled for work with the Clinic teacher, but more return to their own schools to programs based on the recommendations of the Reading Clinic psychologists.

In-service courses for teachers interested in clinic work as well as improving of the teaching of reading in regular classes at any level are offered both during the school year and in the five weeks Philadelphia Public Schools Workshop each summer. College credit, both undergraduate and graduate, may be obtained from the University of Pennsylvania and Temple University at this Summer Workshop.

In addition to these voluntary forms of teacher training in the field of reading, the Curriculum Office has recently appointed two supervisors of elementary reading to work full-time on the job of improving reading instruction. For many years each of our eight districts has had the services of what we call a collaborating teacher in language arts to assist in the job of teacher education. With all of this, the task is still a gigantic one because of the teacher turnover in a large city system, the lack of well-qualified teachers for permanent appointment as well as substitutes for interim jobs.

For the Future

Yet with all that we are doing and trying to do, the recurrent nightmare of the public school administrator and supervisor in the big cities across the nation is the fact that we have not yet found the answers to the problems posed by Dr. Conant in *Slums and Suburbs*, by Dan Schreiber in his study of drop-outs, by Finis Engleman in the *AAUW Journal* for March in his article entitled "Some Priorities in Public Education," or by the *Saturday Evening Post* in the articles telling us that "We Waste a Million Kids a Year." Granted that this represents a complex of problems, you and I know as reading people that at the base of much of the later failure and frustration of these boys and girls is their *initial* failure to learn to read and write. The common denominator in this picture is definitely school failure which is just another way of saying reading failure either complete or being able to read only at second or third grade level when you are sixteen years old.

What is the answer? The answer is to be found, I think, in the answers to such other questions as: "How different can you dare to be in adopting new ways to teach beginning reading? How imaginative? How creative? How willing are you to give up comfortable old ways to follow new, difficult, and at times uncharted new ones? How much more than lip service are you going to give to the idea of really "meeting the needs" of this segment of our student population? In the final analysis, how much do you really *care* about this problem?

Actually, there is no one whether he lives in a big city or small community who can afford not to care about this and other problems of our urban centers. While we have heartening evidence in the various Great Cities Projects of the interest and financial support of educational foundations on some aspects of these problems, this help is limited at the present time. Instead, I feel we must turn to our teachers with new ideas and new methods of teaching reading and the other language skills, methods which they can understand, accept philosophically, and then put into practice in their classrooms.

That we *can* reach this group of children in our schools, that we can deal with their problems more successfully, I am convinced. Some of us are trying new approaches in a modest way, but I, at least, still have the eerie feeling that while some of my colleagues have said that they are behind me in this experimentation, they have mercifully neglected to say how far behind. There is still much to be done.

In closing, I should like to quote a few sentences from Fred Hechinger's book *The Big Red Schoolhouse* in which he says, "In America they proclaimed the unheard-of ideal; equal educational opportunity for all children. It was a revolution intended to open the doors of intellectual excellence to all who cared to enter."

Through the years "excellence" became the forgotten word, while the "open door" was made the permanent symbol. In time, despite the "open door," many children were no longer offered true equality of opportunity, because behind the "open door" the shelves were "often bare."

28. The Big City Story— San Francisco

ISADORE PIVNICK

Educators have taken a new look at culturally handicapped children and their needs. Something is being done in San Francisco about this look which revealed that children residing in certain areas need special attention. Since February 1961 a three-year grant from the Ford Foundation Fund for the Advancement of Education has enabled the school district to provide personnel, material, and equipment to carry on a special pilot project in a "culturally deprived area." This project, known as S.C.I.P. (School-Community Improvement Program), has as its major emphasis strengthening of reading and language skills, as well as attention to closer relations with neighborhood and parents, and help in getting jobs and college placement for youth.

The project is centered in an area known as the Western Addition. There is high density of population, living standards are inferior due to low economic status, family patterns are disoriented, and socially unacceptable behavior is common. Mobility of population in this area is high. Redevelopment of the area is currently under way.

Two elementary schools, one junior high, and three high schools are involved in the project The elementary schools feed into the junior high and it in turn sends pupils to the three high schools. Approximately 3500 pupils are involved. Only twelve additional staff members have been assigned to work with the existing staffs.

The project teachers assist by teaching small groups, demonstrating good teaching techniques, preparing materials for teachers, and seeking new methods and materials for use by children who are "educationally retarded."

Each of the three teachers who work with the two elementary schools concentrates on a particular grade level, i.e., 1-2, 3-4 and 5-6. Methods, materials, and equipment are tried with children in small groups. Then, through coffee klatches, organized and informal meetings, demonstrations, and descriptive bulletins, information is shared with the regular staff. In this way the effects of the project teachers' efforts are felt in every classroom. A great deal of emphasis is placed on the language and experience approach to reading.

Two teachers serve in the junior high as members of the S.C.I.P. team. They teach reading two periods a day and then carry on activities that insure articulation in the project classes, serve as consultants, and act as resource teachers to other teachers in the school.

In addition to these "above formula" teachers, five members of the regular staff serve children enrolled in the project classes. They teach four periods and have one conference period per day. During the conference periods the teachers "team-up" for discussions about teaching techniques, problems, or preparation of materials.

It has been interesting to observe what has happened to the teachers and children. When the mathematics teacher found it difficult to teach members of his class because they could not read the arithmetic texts, he discussed his problem with the English teacher. Working together, they hit upon a solution. The teacher of English provided time in his class for the pupils to define the arithmetic terms. The mathematics teacher followed this by encouraging discussion of the vocabulary in the classroom. Concept building and understanding of terms became an integral part of the mathematics class. Pupils are proud of their newly gained ability to attack words, spell them, and use them with meaning.

"Each one teach one" is another approach which has proved highly successful. A flexible "pairing-off" system has been established so that pupils who have strengths in certain areas help those with weaknesses. This has increased incentive for the pupil and has provided more time for the teacher to work with other individuals.

Similar approaches have found their way into other classes. Development of vocabulary at the chalkboard, use of sketches and drawings to elicit responses, and interesting and purposeful discussions by the pupils are included as an integral part of each subject. These positive steps in improving attitude toward reading as well as ability to read better are evident in the classrooms.

Other features of the junior high program are:

1. Classroom enrollment is limited to 24 pupils.
2. Pupils are placed in the program if they have an IQ score of 85 to 100 and show a reading retardation of approximately two years. (This is based upon group test scores and teacher judgment.)
3. Multilevel teaching materials are used. These include textbooks, SRA Kits, workbooks, charts, filmstrips, games and duplicated materials.
4. Machines are being tried with reluctant as well as rapid readers in the English classes. These include tachistoscope, controlled reader, tape recorder, listening centers, individual previewers and reading accelerators.

Each of the three high schools has one special teacher assigned to teach two reading classes and one laboratory class daily. In addition they serve as coordinators of the special reading programs. During free periods they evaluate materials, prepare bulletins, write lesson plans, counsel children, and work with other teachers.

Tenth grade students in two of the high schools take reading classes in addition to the regular English courses. Reading and driver education share the students' time. Teachers of subjects other than English are also invited to teach the reading classes. In-service at-the-site is conducted for teachers who volunteer to work in the program. Screening takes place so that follow-up work can be done with students requiring further help.

In the third high school the pupils are screened during the low ten semester in the regular English classes. Pupils are recommended to the project teacher for further tests and interviews. Then, those who require additional help are placed in special reading laboratories taught by the project teacher and one other teacher of reading.

Teachers and librarians have commented on the improvement noted and changes in selection of books for personal reading. In addition the voluntary, before school classes are well attended.

All pupils in the program have been given mental and achievement tests. They are re-tested periodically. At the end of two years an evaluation will be prepared using test results plus other subjective information.

Although we are attacking the reading problem we recognize that reading disability is just a symptom. We are aware of some of the causes and we are trying to do something about them. Image building, motivation, and cultural enrichment are a vital part of the approach. For the older students job opportunities and scholarship possibilities give reason to improve.

Field trips to nearby TV studios and return visits to the school by studio personnel has increased interest in news broadcasting. A visit to one of the local newspaper plants to observe how a newspaper is prepared met with real delight. Each week the class receives free newspapers which they use in their daily program. One group of children visited their teacher's ranch. The trip over the bridge was a "first" for many. A recording of the "oh's" and "ah's" which came forth from the youngsters as they held sheep and chickens and collected eggs was proof of their enjoyment. A chance to learn about the opera "Rigoletto" and then see it was afforded several pupils in the elementary schools. Arrangements were made for several hundred pupils to attend the symphony. These real experiences lead to excellent discussions and opportunities for reading and recording.

Another service which has proved very valuable and which has been well received is home visiting. At the elementary level the project teachers visit the homes of their pupils. In some cases the regular staff members also go along. A counselor is assigned to work with the teachers at the junior and senior high levels. The visits to homes have helped the teachers become even more understanding and at the same time have helped the parents.

The community counselor has been kept busy securing sites for study centers and personnel to supervise them. Centers have been established in six neighborhood buildings, including recreational and church facilities. College students have volunteered their services. Students from the junior and senior high schools have been informed of the facilities and many have already taken advantage of the opportunity to study in quiet surroundings with competent help available. In addition, two centers are available to elementary students. Information on loan funds and scholarships has been sought and publicized.

Finally, jobs for youth poses a serious problem. The project's vocational counselor has prepared material on how to get a job, requirements which must be fulfilled if a job is to be secured, and has opened doors to more employment for youth. An active program has been initiated in order to acquaint both the school and the "world of work" of the needs of youth. Vocational Guidance Workshops which have been held in the community have been well received.

This is the *new look* in the Big City. Should *you* take time to look you will see happy, interested, motivated children. But let's not forget the parents and teachers. They, too, see the benefits of this effort on behalf of children.

29. Our Ten Million Obsolescent Men

DAVID H. RUSSELL

The IRA must be concerned with reading, not only in classrooms, but in relation to our national welfare. We need to know about illiteracy and unemployment and the men plagued by them.

In January of this year the Kennedy Administration asked Congress to approve a bill for about 50 million dollars for a campaign aimed at wiping out adult illiteracy in this country. This problem is close to the one of finding 25,000 new jobs every week for the next ten years to keep pace with workers displaced by automation and new machines. It is related to finding jobs for the 26 million adolescents who will reach job-hunting age in the next decade.

May I illustrate the problem by two examples? W. J. is a Pennsylvania steelworker whose job was erased by automation during the 1960 recession. G. T. is a day laborer in a relatively prosperous area in northern California—except that he hasn't labored for pay for over three years now. Both were part of the estimated five million men unemployed in the United States in the spring of 1961 and of the larger group who find it increasingly difficult to get regular work. Both are obsolescent men—and they and others like them will soon be obsolete unless they are helped.

W. J. has the better chance. He had a couple of years in high school before he left it to help out the family. He has manual skills and can be classed as "retrainable." He may make it if the Federal Government's depressed areas legislation of May, 1961, can be implemented soon. G. T.'s chances are not so good. He lived in the rural South and did not finish the fourth grade. Accordingly, he must be classed as an illiterate. At thirty, despite responsibility for wife and three children, he has never held a job for long. His lack of literacy as well as technical skills makes every prospective employer look to the next man in line.

W. J. and G. T. are representatives of a huge group of men, some of whom are unemployed, some labeled as "unemployable," but all often anonymous, frequently unnoticed by neighbors and neglected by government agencies. Sometimes they are the men of the slums and flop-houses of big cities, but sometimes they live in small centers where they get occasional seasonal employment in mining, fishing, construction or farming.

In the younger group, one third of the total high school population who are dropouts from school in 1962 will have trouble getting their first chance at employment. Their unemployment rate will be double that of the high school graduate. David L. Hackett, an assistant to Attorney General Robert Kennedy, estimated in the summer of 1961 that there were about one million youths who had dropped out of school and were unemployed, most of them belonging to minority groups in big cities such as New York, Chicago, and Los Angeles. Already they too are obsolescent in a scientific, industrial world.

Our moves toward increasing industrialization and automation are erasing low-skill jobs and setting higher qualifications for the jobs that remain. A business such as a trucking company may demand high school graduation, and many factories are asking for a high school diploma before they invest in an individual's job training and apprenticeship. As Edgar Dale puts it, "Dig ditches? The pick and shovel are as outmoded as the cuspidor or mustache cup."

Many illiterates and semi-literates have learned to conceal their illiteracy. They mark their time cards so they can pick them out quickly as they check in for work. They glance at the menu in a restaurant but ask, "What's the special for today?" They look at the pictures in a newspaper and they get their news from the radio. When they are given a form to fill out at an employment office they say, "I forgot my glasses," or "Can I bring it back tomorrow?" Something like the military programs of World War II for improving reading and writing abilities is still needed for the "forgotten tenth" at the bottom of the literacy heap.

What are the causes of illiteracy in this day and age? The percentages of various causes in a group of illiterate Canadians studied during World War II were found to be: family economics, 28; distance from school, 25; didn't get along at school, 18; father incapacitated, 13; foreign education, 9; moving too often, 2; others, 6.

Each of these causes probably operated in the United States at the time of the war. Increasing mechanization has created new problems. The figures may be higher today in such categories as "moving too often." Non-English speaking background looms large in parts of New York City, southern Texas and southern California. The amount spent on schools is another factor. Low educational budgets are associated with low school achievements. But perhaps the chief cause of illiteracy is having illiterate or semi-literate parents—which may sometimes involve mental ability but almost certainly includes a childhood environment in what is now called an "underprivileged" or a "culturally deprived" home and neighborhood. Here the child has few contacts with the printed word. He never hears stories read aloud and sees few newspapers or magazines—and no one in his family circle cares if he reads or not.

Perhaps the most important thing we can do in the days ahead is to see that the children of illiterate parents do not repeat the pattern—that such adolescents attend a school regularly and that schools and teachers are equipped to cope with their difficulties. Teachers of adults and taxpayers who have felt hopeless about the problems can get a fresh start from the success of the Higher Horizons projects in New York City. Similar efforts are under way in the Great Cities Project in other places such as Detroit and San Francisco, supported in part by the Fund for the Advancement of Education. These projects emphasize the upgrading of young people's achievements in reading and language at all school levels, along with help in getting suitable employment when they leave school.

Another task for school people is to recognize that illiterates or semi-literates can be of average or better intelligence. Perhaps they were "late bloomers" or somehow got labeled as dumb in their school careers. Perhaps they are like the plasterer making excellent daily wages who came to a reading clinic for help. He had been much troubled by headaches but his doctor discovered that these appeared when his young daughter brought her primer home from school and asked him to read to her. The doctor sent him for help in reading. Although he had gone through junior high school, he confessed he had never really learned to read. He was the boy who cleaned the blackboards and got sent on errands by the teacher. A few months of expert help and he was able not only to keep up with his daughter but to help her with her reading.

School people must also study their dropouts more intensively. Nowadays about a third of our young people go on to college, a third graduate from high school and look for work, and a third never finish school. Why do adolescents leave school around the ninth or tenth grade and thereby ruin most of their chances for a successful and useful life? Some causes have been listed as dissatisfaction with school, economic need, lure of a job, and marriage and pregnancy. Most adolescents who drop out have been retarded in school at least one year. Perhaps most boys have failed to find a realistic vocational program and they have had no plans for college. They did not want diluted courses of mathematics or English and they haven't had a chance at a rich variety of experiences through which they would learn best—field trips, motion pictures, relevant shop experiences, or more recently, television and other learning aids. Programmed learning may be as good in the technical branch of a high school as in a modern factory. Despite all we know about reading development, most high schools in this country still don't have a full-fledged attack on the reading problems of the academic lower half of their student bodies.

But the solution to the problem goes far beyond anything a school system can do by itself. More libraries are needed, especially in rural areas and depressed zones. The backwardness of some isolated areas and the growing cultural and economic disintegration in the heart of our largest cities affect not only education. Housing and sanitation and employment must be improved. The total lives of people are involved. The federal government has begun to help with the retrainable men like W. J. although only on a token basis so far. Large industrial concerns spend millions on the training of employees and some are adopting a humane point of view in changing employment patterns and locations of plants. The tougher problem of G. T. and his fellow illiterates calls for a combined attack by government, school system, industry, local welfare agencies, and neighbors. Our concern for our national survival demands help for forlorn and wasted lives. It requires useful productivity of goods or services by men now obsolescent. Our concern for the individual must include the last to be hired and the first to be fired.

30. The Pre-service and In-service Education of Teachers of Reading

COLEMAN MORRISON

Perhaps no aspect of the American education system has received more attention than the reading instruction offered in the American schools. This has been particularly evident during the past two decades following widely circulated reports of reading failures that have aroused national interest; in the '40's the disclosure by the Department of the Army that vast numbers of men were rejected for military service because of their inability to meet minimal literacy requirements; in the '50's the publication of Flesch's well known polemic and its unflattering insinuation about Johnny; and again in the '60's after the Russians fired first rockets, then animals, and finally men into space, thereby prompting the inevitable comparison between Johnny and Ivan.

The concern expressed by professional educators and the lay public over the current status of reading instruction appears to be justified if we accept as fact the figures offered by reading authorities who estimate that as much as 15 per cent of the school population is reading below their expected level of achievement.

Among the factors believed to have contributed in part to this condition is the inadequate preparation prospective teachers received at the collegiate level. In an effort to substantiate or refute this assertion the first Harvard-Carnegie reading study was initiated. A report of the findings, published under the title, *The Torch Lighters,* established in part that: 1) 3 per cent of the colleges and universities in the United States do not require prospective elementary school teachers to enroll in any course work devoted to the teaching of reading as a requirement for graduation; 2) when reading is taught with other related subjects in a single course (e.g., Language Arts) as is done in 50 per cent of the colleges, a majority of faculty members teaching these courses devote only between 4½ and 11¼ actual class hours in satisfying graduation requirements; 3) when time becomes a factor, it is more than likely that intermediate grade study skills will be omitted from the course or, if included, will be treated in so cursory a manner as to be of little benefit to the prospective intermediate grade teacher; 4) little preparation is offered in the area of remedial reading instruction; 5) undergraduates assigned to cooperating schools as student teachers are often placed in a classroom where teaching techniques utilized by the cooperating teacher are considered to be undesirable by college supervisors.[1]

At least one conclusion can be drawn from the study: Inadequacies in the preservice preparation of most teachers preclude the possibility that the baccalaureate education will sustain the young educator through a lifetime of successful classroom teaching. Based on the study findings twenty-one recommendations were made to strengthen existing collegiate programs in teacher education. At the same time, the staff recognized that it was no longer logical for the colleges to assume or attempt to assume *total* responsibility for the professional education of teachers, since it was believed that many understandings and techniques related to successful teaching of reading can best be learned in meaningful situations under the guidance of a colleague and/or administrator. Thus attention must be turned to the local school and to the individual or individuals who must provide continuing education for the teaching staff. This task, a difficult one at best, is complicated by the fact that not only the beginning teacher must receive adequate guidance but a program of "re-education" must also be provided for many other teachers, particularly for those returning to the profession after an absence of some years, for those who do not meet full and regular certification requirements, and for individuals who are suffering from professional atrophy. In addition provisions must be made to inform *all* teachers of the most efficacious ways of teaching reading as reported by reliable research.

It appears, however, that while administrators at the local school level widely subscribe to the need for continuing education of teachers, in the final analysis what emerges is likely to be more lip-service than in-service.

The results of the present Harvard survey clearly indicate that few if any in-service education programs are comprehensive enough to be rewarding to the staff. For while pre-school orientation meetings, workshops, demonstration lessons, intervisitations, lectures and panels are sometimes conducted they often fail to fulfill the objectives for which they were intended, namely, to increase the knowledge and improve the performance of teachers within the system. Several factors can account for this failure. Since reading constitutes only one component of the total curriculum it is not defensible to offer in-service programs in reading every year. Deference must be made to those colleagues who request in-service programs in the content areas. Nevertheless when there is an absence of any comprehensive program in reading over prolonged periods of time we must look beyond the priority factor for more plausible explanations.

These can be readily supplied by classroom teachers who forthrightly admit that they now resist and will continue to resist in-service education until such programs are substantially revised. They cite as deterrents, mass meetings which do not take into consideration either the interests or needs of the groups, yearly repetition of content, after-school and Saturday morning meetings, overabundance of theoretical concepts, and the absence of realistic conditions surrounding demonstrations.

In addition, teachers oppose two prevailing administrative approaches which are utilized in an effort to improve reading programs. The first of these is the directive approach whereby teachers are called together for institutes and workshops and then told what to do and how to do it. In contradistinction, there is the non-directive method whereby the administration provides little if any guidance to the instructional staff. When either approach is used, it is doubtful whether any instructional improvement will emerge, for where force is imposed without any change in the attitudes of the personnel involved or without developing fundamental interest or motivation the desired outcomes are not likely to be sustained after pressure has been relaxed. On the other hand, when too little guidance is offered to teachers working in groups, the most likely result will be stagnation or chaos especially if these teachers lack awareness of the factors necessary for productive group work.

In an effort to effect more viable and sustaining in-service education programs we must first look to the administrative staff to strengthen existing programs. In this respect, it is recommended that: 1) the individuals responsible for the school or system-wide in-service programs act in the capacity of coordinators rather than directors or absentee leaders; 2) teachers themselves identify the reading problems upon which they would prefer to focus attention; 3) a released time program be approved for in-service activities; 4) the necessary guidance and resources be provided for teachers; 5) financial remuneration and/or professional credit be provided for teachers who participate in activities during vacation periods; 6) small teacher group and individual studies be initiated; 7) affirmative action be taken on suggestions emerging from such studies.

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[1] Mary C. Austin, Coleman Morrison, et al., *The Torch Lighters: Tomorrow's Teachers of Reading*, Harvard University Press, 1961.

Where comprehensive in-service programs in reading cannot be provided because of the immediate demands in other curriculum areas, we must then turn our attention to the school principal who must provide on-going individual guidance to his staff. In this respect it is expected that he acquaint himself with the best of modern theory and practice concerning the teaching of reading. Not only should he know what is involved in the reading process itself but he also should be aware of classroom practices. In addition, the principal should understand the objectives of the reading program, know how reading is taught at each grade level, be able to discuss what the sequence of skills should be, and have knowledge of what materials are most appropriate for children with varying interests and abilities. Furthermore he must be able to assist in the selection of new reading materials and in the utilization of old materials in new ways. And finally, although a coordinator of reading rather than a specialist, the principal should be aware of the variety of reading problems, of their multiple causation, of ways of diagnosing pupil difficulties, and of materials and procedures likely to elicit a favorable response from these pupils.

Whether present-day principals are sufficiently knowledgeable in these areas and are qualified to exercise the appropriate judgment that will lead to the improvement of teacher and ultimately pupil effectiveness is doubtful. But until the time, when they do possess the necessary qualities of leadership, no sustained improvement in existing reading practices can emerge.

In summary, both pre-service and in-service programs in reading, though necessary components for successful teaching, commonly evidence weaknesses. Pre-service education is sometimes absent, occasionally abstract, and frequently abbreviated, while in-service education is sporadic, sophomoric, and/or soporific. Administrators in both the colleges and public schools must re-evaluate and subsequently strengthen their programs in accordance with reliable research. Otherwise improvement in existing reading programs will remain a hope rather than become a reality.

PART III

Experiment and Research in the Teaching of Reading

1. A Research Pitfall: Jumping to Conclusions

William Eller

BECAUSE educational research workers do not often meditate on all the possible false moves that could be made as a research program is carried out, there is no established pattern of organization for a treatment of the pitfalls encountered in research on reading. However, even a moment's thought reveals that opportunities for faulty procedures and erroneous conclusions can be found at any stage in the development of a research project from the original hypothesis to the eventual interpretation and reporting. Thus, a consideration of research pitfalls might reasonably be organized sequentially in the order in which the different phases of an investigation usually occur.

At the very beginning of an experiment it is possible to make judgments which eventually will lead to doubtful conclusions. About three years ago, a doctoral candidate worked out a clever experiment to determine the extent to which certain group intelligence test scores are depressed if the examinee is retarded in reading ability. One of the intelligence measures was the *Otis Quick-Scoring*, Beta Test for grades four to nine. The sample to which it was administered consisted of unselected ninth grade students. The investigator was unable to demonstrate that the Otis scores of sub-standard readers were depressed, apparently because the items on the Otis (Beta) are easy to read, and extremely few ninth grade pupils had difficulty reading the test even though there was a typical proportion of deficient readers in the sample. Since the test is intended for use in grades four to nine, the few ninth grade students who had appreciable difficulty reading it did not make any real impact on the large volume of data. Examination of the results of this investigation would lead to the conclusion that poor readers are not handicapped in their performances on the Otis, although other investigators have found evidence to the contrary. The doctoral candidate who planned this particular study seems to have ruled out the expected relationships at the outset when he made his choices of subjects and test form. Interestingly, a year later, another graduate student found that retarded readers were at a disadvantage when taking the Otis, when he contrasted the performance of average and poor readers in the intermediate grades.

Inadequate planning of the experimental design adds to the prospect of jumping to conclusions. The statisticians continually remind research workers that it is important to develop the plan of data analysis prior to the collection of any data; otherwise, the investigator may discover that he has expended his time and effort to acquire data that cannot be analyzed efficiently. If there is any liklihood that interaction between certain variables may be demonstrable, the data collection must be planned in advance to permit a test for interaction. If interaction is present but cannot be tested, quite obviously it will not be revealed and reported, and readers of the research may easily jump to the conclusion that it was not a factor.

A more obvious source of faulty conclusions with genesis in the planning stage of experimentation is the failure to employ an adequate sample, a failure which could usually be avoided through use of a pilot study. Sophisticated workers understand how and why the demonstration of statistical significance is a function of sample size, but they may nevertheless be led to a faulty conclusion when a nonsignificant result is reported in the literature in language such as "Kline, however, did not find any relationship between visual acuity and reading ability in fourth grade pupils." Somewhat paradoxically, statistically unsophisticated readers of research may yet be found jumping to the conclusion that a first-rate investigation cannot be trusted because the sample contained only twenty-eight subjects, even though the results were significant at a very conservative level of confidence. There is apparently still considerable suspicion of small sample research, at least among readers who do not understand the principle of statistical significance.

Further opportunities to jump to conclusions arise if research is not blamelessly conducted. Any good master's degree student realizes that erroneous conclusions can result from failure to exercise a careful "quality control" of the experimental and control environments, the measuring instruments, the nature of the subjects and a host of other experimental factors. Many of the investigations which purport to establish the superiority of a specialized method of teaching reading are vulnerable on this point, because certain factors are very difficult to control in methodology experiments. It is almost impossible, for example, to guarantee equal amounts of instructional time to the experimental and control groups, partly because teachers employing the newer or experimental method are tempted to include some extra instruction of the more established sort which they have used in previous months or years. In school systems which have sought to compare conventional reading instruction with experimental phonetic approaches to reading teaching, supervisors report that the teachers of the experimental method are often observed supplementing the phonetic method with basal reading instruction which they trust. Another factor which may lead to a faulty conclusion at the end of a methodology experiment is the quality of the instructional materials. If one of two compared methods is considered experimental, the instructional materials for that method are often prepared by the chief investigator and/or his aides and thus these materials are well developed and represent the ideal instructional matter for the experimental approach. Teachers of control classrooms, on the other hand, are often allowed to teach in their usual manner, employing whatever materials they would ordinarily use. Quite obviously, this arrangement favors the experimental method. Less tangible bias may result from the differences in teacher and pupil enthusiasm, if the experimentals know that they are participating in a new and different program while the controls go about their classwork as usual.

Because of the emphasis on statistics, measurement and research techniques in the major universities and research centers, analysis of research results contributes less to the total of faulty conclusions than might be suspected, although, of course, incorrect analyses can be found occasionally, especially in the unpublished thesis element of the literature of research. Certainly one source of misconception is the failure to exhaust the data, sometimes resulting from the previously-mentioned failure to design the experiment for efficient analysis. Another sort of naivete which has persisted long after it should have disappeared is the ignorance of the fact that at any given level of confidence there will be instances in which relationships will by chance appear to be significant. For example, recently an investigator calculated twenty-eight correlation coefficients between a measure of reading ability of college freshmen and certain of the scale scores on the *MMPI*. At the five per cent level of confidence only one of the twenty-eight correlations was significant, and there seemed no good reason for that one. A reader of this study should suspect that this one significant r occurred just by chance, although he cannot dismiss the prospect that it describes a bona fide relationship.

Another statistical concept which is still a possible source of faulty conclusions is that of regression. Nowadays there is much concern about under-achievers. Guidance-oriented investigators have demonstrated that bright students are under-achieving in reading. It is probable that this is true, but unless regression is taken into account when comparing ability and achievement, the gifted student will appear to be under-achieving to a greater extent than he really is. In fact, if gifted students are identified on a given intelligence test, according to the regression principle they could be expected to "under-perform" or under-achieve on a subsequent measure of intelligence.

Interpretation of research seems to offer many opportunities for jumping to conclusions. Perhaps this is because some investigators have decided on their findings before collecting the data. A few years ago a worker in West Des Moines correlated certain tests of vision with academic achievement in the intermediate grades. When the results were examined the cooperating optometrists were disappointed because the coefficients ranged from about .15 to .18. Realizing how many factors must be related to school achievement, the educational collaborators were not surprised by these results; in fact, they would have been suspicious of an *r* of .50 or .55 which the optometrists anticipated.

It is through misinterpretation of results that commercial publishers often lead school personnel to jump to conclusions. The administrators and supervisors of the school system in Elmtown decide that reading instruction must be improved in their domain. A campaign for better reading teaching is inaugurated. Teachers are given in-service training, certain new ,instructional materials are purchased and featured, and much of the community is aroused to the cause of better reading. When tests reveal that Elmtown pupils are learning to read better than in previous years, the publisher of the materials claims credit, although with an extensive campaign improvement was almost inevitable, and any of several types of material would have led to similar results.

In research summaries such as those found in the *Review of Educational Research*, jumping to conclusions is occasionally fostered by over-abbreviated reporting. The reporter may state that Jones found a relationship between teacher personality and amount of voluntary reading by pupils, whereas Smith was unable to establish any correlation. From this statement the inexperienced reader may conclude that there is no consistency in the findings on this point, or at least that Jones and Smith tend to cancel out each other's work. Sometimes this conclusion is warranted, but often it results from the compiler's failure to report that Jones' measures of personality were markedly different from Smith's and that Jones used library withdrawals as a measure of voluntary reading, while Smith asked pupils to record their own free reading.

Perhaps the best recent examples of jumping to conclusions through misinterpretation of research are found in *Reading and the Psychology of Perception* by Hunter Diack. This book is based on the assumption that the decline of Gestalt psychology means that the "whole-word" method of teaching reading is no longer defensible. Other shorter "jumps" are offered to support this major leap to a questionable conclusion.

From the foregoing it is apparent that faulty conclusions can originate at any stage of a research project—in the conception, experimental design,, day-to-day procedure, analysis of data, interpretation of results or reporting. Considering the many opportunities for jumping to conclusions, it is somewhat gratifying to note that investigators, reporters and research readers have learned to eliminate these errors in most instances.

2. A Research Pitfall: Jumping to Conclusions

WALTER T. PETTY

Jumping to conclusions is not a pitfall faced by educational research alone, nor is it a pitfall faced only in research. Jumping to conclusions—pitfall or not—may well be considered a characteristic of our society. When we consider jumping as an action in direct opposition to critical and deliberative thought, there is little doubt that much jumping is done, even though we might debate whether a majority of the members of our society or even a substantial number are guilty of such action. The jumping to conclusions that is done is certainly a concern and is a reflection of attitudes that have their roots in early childhood, which fact alone should cause us in the field of education to be concerned with the problem.

We may think of ourselves as being able to evade hidden traps in conclusions we reach and decisions we make in our daily lives, and even—or perhaps especially—in areas of our special concern or competence. Yet how often do we really examine evidence? How often do we form an opinion—about something in the field of education, even—based largely upon notions we have? Witness the *pro* and *con* jumping that has taken place concerning programmed instruction, team teaching, programs for gifted children—and in our language arts area—individualized reading and linguistics. I doubt if it is unfair to say that many have taken positions by jumping.

Putting aside for the moment the implication that jumping to conclusions is somewhat ingrained, let me return to the jumping to conclusions that is done in educational research and consider the kinds of jumping that take place.

First, there is the conclusion jumping which may occur as the researcher thinks he has a problem for investigation, has it adequately defined, and has his research properly designed. It is in this area that perhaps the most serious fault in educational research lies—a fault that too often is present and one which inevitably leads to pitfalls. Jumping without careful thought as plans are made precludes conclusions of merit. A poorly stated question or problem is a real barrier to attaining a helpful or meaningful answer. Too, many areas of research design may lead to false conclusions. As example, in the planning of experimental research directed at comparing the effectiveness of two methods of instruction, such things as whether the two approaches being compared are clearly defined is essential. Whether plans have been made to hold both procedures constant from one situation or classroom to another is also necessary. The incorporation of such loosely defined terms as "traditional approach" into the design may be a source of confusion. Further, much jumping may result from inadequate regard to the answering of such questions as: What precautions are to be taken against "halo effect?" What exactly is to be measured and how? What characteristics of subjects should be known and studied, or should enter into the research design? The researcher who has not thought through his problem and design has trapped himself into the position of being able to conclude very little.

A second type of conclusion jumping may occur as the researcher completes his study. This is the type most often thought of in connection with the topic, and as indicated previously, is almost sure to follow if the problem has been poorly defined and the design fraught with incongruities. It is true that many educational researchers have been conditioned to be cautious—often overly so—in making conclusions. However, it is difficult for anyone to admit that nothing can be concluded because poor planning was done at the outset. Thus, as a second choice the researcher may fall back upon timorous conclusions—a kind of venturing—which he may recognize as leaps in the dark but which are rationalized as being only small jumps. Of course, aside from the problems which are the result of planning, this is the point at which the researcher may confuse fact and opinion, cause and effect, prejudice and judgment. It is here, too, that he may forget about such things as concluding in terms of the population studied and limiting his inferences to those situations his research was designed to test.

A third occasion for jumping to conclusions may be presented as research is reported in periodicals. There is, of course, great pressure—and great need—for such reporting to occur. In this reporting, though, the researcher may be less inclined to be timorous; there may be a stronger feeling that something of consequence must be said. If the research was a requirement of a graduate school program, and the program has been completed, the researcher may no longer regard himself as being under the restrictive influence he felt earlier. As he writes a journal article he may take a bigger leap than he would have as a student; that which was statistically significant may suddenly become practically significant, and his efforts to summarize and rewrite may lead to oversimplification as well as to errors of fact and to statements of conclusion somewhat different from those in the study itself.

A fourth type of conclusion jumping may occur as reports of research are read—by teachers, by administrators, by college professors, and by other researchers. All of us tend to be guilty of looking for support for our ideas and opinions; such intent may lead to biased interpretations. Too, there are many terms used in educational research whose precise meanings are not agreed upon; where such differences are present interpretations are almost bound to be different. It is further true that some readers are quite uninformed about how to interpret research; they may have only the haziest of notions about such things as "significant at the 1% level" and "confidence limits." Inadequate knowledge and lack of experience easily results in false conclusions.

There is, of course, much research done which is purposeful, well designed, and for which realistic conclusions are reached. Too, there is much research reported and read without prejudice and with critical and knowledgeable appraisal. But we would probably agree that there is much which falls into the pitfalls suggested. With this in mind we may well ask ourselves, "Why are conclusions jumped to —in society in general and in special areas of concern as, for example, in research dealing with the teaching of reading?" There are many reasons certainly. Several that occur to me are the following:

Habits of thinking which do not foster critical and evaluative approaches to problems are one major reason. Such habits have been firmly established and are difficult to break.

A second reason is the extent of the sanctity each person assigns to research as a basis for belief and action. This, too, is a reflection of habit, experience, and attitude.

A third cause of arriving at differing conclusions—whether the arriving has been by jumping or not—lies in different psychological theories followed and in different hierarchies of values held.

A fourth cause of jumping—and again a very major one—is the inadequate knowledge of research design and treatment of data a researcher may have.

Pressure of one sort or another is a fifth reason. Pressure to finish a degree, pressure to do "writing," and pressure to defend a position taken are all possible causes of jumping.

Undoubtedly there are many other reasons but, considering these, what can be done to avoid the pitfall? Again, a long list of things to do might be formulated. I would suggest that the most realistic and most basic steps be taken first.

The primary step to be taken in avoiding pitfalls in thinking must occur long before a researcher begins a study. It must begin in his childhood and in his early educational experience. We must show greater concern for teaching children to be critical in their attacks upon problems and we must really teach this kind of thinking.

We must also prepare the educational researcher in a better fashion—perhaps by a more critical approach to information presented in education courses and other college classes.

A third step I would suggest would be to provide a person with a greater amount of experience in studying and appraising research prior to his engaging in it in connection with an advanced degree.

Fourth, it would help to learn to more often regard "conclusions" as hunches or leads rather than as final determinations. The corollary to this should be to extend studies into follow-ups before other than tentative conclusions are drawn.

Fifth, journal editors and editorial boards may help considerably in limiting jumping to conclusions. There is a need to present articles, research reports, and reviews of research in a more critical manner than is now done. For example, even such a little thing as eliminating from the title of an article the word *experiment* when the article is only an account of an activity. This editorial approach—really an approach by the profession itself rather than one by editors alone—would force greater examination of design and of conclusions made.

A final step, and one certainly as important as any of the preceding suggestions, is again a matter of total professional approach. We need to foster climates in colleges and universities for research; desirable climates would include greater intellectual emphasis and financial support, and the making of time and facilities available.

Have you been thinking up to this point? How critical has your thinking been? Have you concluded that I have jumped to conclusions? Or would you be jumping to a conclusion with that thought? Perhaps recognizing the ease with which we all jump to conclusions may be a major step toward avoiding the pitfall.

3. A Research Pitfall: Jumping to Conclusions

HELEN A. MURPHY

It seems to me that we have a more serious problem than the one suggested by the topic—"A Research Pitfall: Jumping to Conclusions," and that is the application of research findings into practice in classrooms. After several years of directing research, I am concerned that many important findings have not been translated into classroom practice, and sometimes wish some people might have courage to "jump" just a bit in the light of research findings.

A research person does not stop with a single study in a single community, but rather starts on a project with a goal in mind, and after one attempt will accept the findings in this situation and plan the next step in the light of this evidence. I would like to outline briefly various approaches we have used in attempting to reach the goal—"success in beginning reading for all children."

Many studies had been done which showed various abilities are related to success in beginning reading, but there appeared to be little evidence of what skills a child may have when he enters school, and how such skills may be related to school success. In September of 1953 (1) we surveyed approximately one thousand children from ten different communities, including large cities and small towns, representing low, middle and upper socio-economic levels, to discover the skills these children have when they entered grade one. We studied the pre-school experiences as reported through parent interviews, and the adjustment of the children to the school situation in grade one as evaluated by the classroom teachers.

The test battery included tests of knowledge as letter names and sounds, visual memory for words and motor skills involving folding and cutting paper, drawing a circle and copying a sentence in manuscript writing. The checklist used in the parent interviews was concerned with types of active and quiet play the child had participated in, the toys he had used, his experiences involving books, stories, music and writing. The teacher's observation chart was divided into seven categories: physical maturity, attention in group activities, social adjustment, emotional adjustment to school, motor control, verbal fluency and speech.

All of the data, with the exception of reading achievement, parent interviews and teacher observations, were collected by October 12. Reading tests were administered in November and in March and the teachers' observations continued for the first six weeks of school. In addition to the analysis of the test scores for the total population, two hundred children were selected for special study. One hundred who were high achievers in reading were matched with one hundred children of like mental age who were low achievers in reading. The high achievers were significantly better on all the tests in September: writing letters from dictation, identification of letters from dictation and from flash cards, identification of sounds of letters and visual memory of words. A measure of reading achievement in March showed that the children who knew the letters when they came to school in September were still superior in reading achievement to the children who did not know the letters.

On the basis of these results, a series of exercises (2) were developed to teach the recognition of all of the letters of the alphabet, capital and lower case, before starting the regular reading program. These lessons were taught the first two weeks of school to approximately 150 children in six classrooms, three in Florida and three in Massachusetts. Another 150 children in the same communities were not taught the lessons and were the control group. Two forms of the Detroit Word Recognition Test were used to measure reading achievement in March and May. The children who had been taught the letters were statistically superior to the children in the control group in reading achievement. In this study no attempt was made to teach the letters to the children who had not mastered them in the two week period.

The following year children in the first grade in two communities were taught the letter names. In this study (3) additional lessons were built and the teaching continued until all of the children had mastered the twenty-six letters. It appeared that the letter names could be taught successfully, and that children who knew the letters acquired a sight vocabulary more easily than the children who did not know the letter names.

With this evidence, an extensive study involving 2,000 first grade children in four communities was undertaken. This continued a full school year with testing in September, November, February and June. The results of this study, "Success in First Grade Reading" have been published. In addition to the analysis of letter knowledge in relation to success in reading, there was an experimental methods study in one community in which the letter names and sounds were taught to one half of the population and the readiness program of the basal reading program was used with the other children. The children who had had instruction in letter names and sounds were superior.

The next approach to the problem was a group master's study (5) in which 300 children, the first grade population of a community, were studied in January, 1959. A careful analysis of all existing readiness workbooks was made. The five main areas of practice revealed in this analysis were: (1) Auditory Discrimination, (2) Language Development, (3) Motor Skills, (4) Visual Discrimination, and (5) Word Recognition.

There were subdivisions under each, and tests were constructed to measure the abilities in all subdivisions on which emphasis had been placed in the published workbooks. Those included in Auditory were: rhyming, familiar sounds, and initial consonants. Included under Language, were: telling stories from pictures, picture sequence, anticipation of conclusions from a picture, interpreting one picture, and classification of objects. The Motor Skills were: cutting and folding, coloring, reproducing a pattern, tracing pictures, and maze. The Visual Tests were: matching words, matching pictures, matching numbers, selecting unlike objects, and matching letters.

The test items were similar to those in the workbooks so that the children would know the procedures, with some items easy enough for all and some difficult ones to provide a ceiling one step above the place included in the readiness workbooks. The reliabilities for these tests were .93, .90, .81 and .72 for Language, Auditory, Visual and Motor respectively. Two people working independently scored a random sampling of the motor tests to establish the reliability of the scoring. This correlation was .92.

In addition to these measures, the January tests for the First Grade Success study, group and individual, were administered. These group tests included:

Identifying lower case letters shown
Identifying words shown
Identifying capitals named
Identifying lower case letters named
Hearing sounds in words, and
Writing letters dictated

The individual battery included:

Naming the 26 letters of the alphabet, capital and lower case
Giving the sound of 24 letters and 16 consonant blends
Applied phonics, involving initial and final consonants, and
Oral Reading

The oral reading test inventoried the pre-primer and primer vocabulary of the Scott Foresman series as that was the basal system being used in the town. The reliability of this test, using the Kuder-Richardson formula, was .97.

The correlations of Reading Achievement and the tests based on the workbook items were .47, .45, .38, .36 and .17 for Auditory (word sounds), Visual, Language, Auditory (familiar sounds), and Motor, respectively.

The correlations of Reading Achievement and the Boston University Tests of Knowledge of Letters were .63, .61, and .55, for Individual Sounds of Letters and Blends, Hearing Sounds in Words, and Identifying Words Shown, respectively.

The correlation of Reading Achievement and Intelligence was .45, and of Reading Achievement and Chronological Age, .04. The distributions of all tests showed that the abilities of the group were measured adequately. A low correlation was not because of a skewed distribution.

Still another approach has been made by providing an in-service program for first grade teachers. In January of 1961, all of the first grade children in a community were tested individually. A program was provided to teach the letter names and sounds to children who did not know them. Twelve people worked in the classrooms every morning for eight weeks, and one was hired to continue the program in September. In January of this year the children in the first grades were again tested. Ten of the thirteen first grade teachers were the same for the two years. In 1961, 155 children were below the norms on the individual test. In 1962, 45 children were below. In 1961, 37 children were reading at first grade level; in 1962, 118 were. In 1961, ten children were reading above grade one; in 1962, 48 children were reading above grade one.

Over the years, evidence has shown that knowledge of letter names and sounds contributes to a child's success in learning to read, and also that these abilities can be taught. These few studies represent the summation of thirty years of research in which continued efforts were made to discover factors which are important in the learning process.

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4. The Relation of Reading Readiness to Certain Language Factors

IDA E. MORRISON

Increasingly principals and teachers are talking about the placement of reading readiness in the kindergarten. The use of the term, however, seems to be applied exclusively to that of reading readiness workbooks. Since workbooks are written by authorities in reading, they carry considerable prestige. Some educators tend to forget that these authorities do not believe that the use of workbooks constitutes the entire readiness program or even a major part of it. In their writings many skills besides those developed in the workbooks are discussed.

The ability to distinguish between likenesses and differences, both auditory and visual, are stressed in the workbooks because pencil and paper lend themselves to this type of work. Some pictures used for the development of ability to tell a story in sequences and for interpretation are also included in the workbooks, but these activities must be carried on with the teacher. The child can work alone on the exercises for likenesses and differences so this type of activity is useful for seatwork. This type of activity therefore assumes undue importance among the other types of readiness activities.

The First Study

In an effort to gain some idea of the importance of some language abilities in reading readiness, two studies were made. The first involved the relationship of children's maturity in the use of various types of sentence structure to their scores on the Lee Clark Reading Readiness Test. This study was carried on with a total of eighty-three children in four kindergartens in a city school district. The children were from families representing a variety of socio-economic levels. Almost ten per cent of the children spoke another language in the home.

Collection of the data. The children's maturity in the use of sentence structure was measured by classifying their oral expression according to four levels. Incomplete sentences were classified as group one. Complete sentences were classified into three additional groups. Simple sentences including those strung together by means of "and" or "and then" were placed in group two. Sentences including compound subjects, compound predicates, or both made up the third group. Complex sentences, those with at least one main and one subordinate clause, were placed in the fourth category. Since sentences connected with "and" are commonly used by immature children, the true compound sentence was eliminated as a separate category, and these were classed along with the simple and run-on sentences.

The sharing period was chosen as the time for recording language, and the data were collected by means of a tape recorder. The teacher asked a maximum of three questions to encourage the children during participation. Each child had three opportunities to speak, and samples were secured to add up to at least a hundred words. The tape recordings were transcribed for analysis. The part of each child's contribution which included the largest number of complex sentences was used; the same procedure was used for compound subjects and predicates.

Treatment of the data. A weighted value was given to each type of sentence, incomplete, simple, compound, and complex. These weights were applied to the sentences found in the oral contributions in order to give each child a numerical score for level of sentence structure. Three judges scored each child's contributions and then compared their work for accuracy. When a difference was found, the sentence was re-evaluated by the three, and consensus was reached. The scores were then used for a correlation with the children's reading readiness scores. The Lee Clark Reading Readiness Test was chosen because it was simple to administer and also because it was the test used by the local school district.

Findings. The raw scores used to measure the children's levels of sentence structure were correlated with the raw scores on the reading readiness tests. The correlation coefficient was found to be .721. A separate correlation was made for weighted scores for the number and kinds of clauses. This coefficient was found to be .722.

The Second Study

The ability to retell a story was another language ability chosen for study in regard to its relationship to the children's reading readiness scores. Forty-four children from two of the four classes used in the first study were selected for this part of the study.

Collection of the data. The story of Peter Rabbit was chosen because the sequence was not important to the story and would therefore not be of assistance to the child in helping him remember the various incidents in the story. The judges analyzed the story in order to find the total number of incidents and to record these so that each child's repetition of the story could be checked on a common scale. Thirty-three incidents were agreed upon.

The teacher read the story to the children every day or two for a total of nine times. She also encouraged the children to illustrate or dramatize the story each time it was reread. At the end of the nine repetitions, the teacher began recording the children's repetitions of the story on the tape recorder. Since this individual work took time, the teacher reread the story to each child individually just before she asked him to repeat it to her. Thus, the time interval between the last hearing of the story and its repetition was kept the same for each child.

Findings. When the children's taped stories had been transcribed and analyzed by the judges, it was found that one child had recalled thirty incidents of the possible thirty-three. The other scores followed a more or less normal curve down to that of several children who were unable to recall any of the story. These latter children were handicapped by their lack of English speaking background. The number of incidents was used as a raw score and was correlated with the reading readiness raw score for each child used in the first study. The correlation coefficient for this relationship was found to be .786.

Findings for sequence. Since the items on the key were listed in sequence, it was decided to number the responses to discover if the children tended to recall the incidents in their proper order. When this data were analyzed, it was found that nine children repeated the story in correct order. These children's scores varied from five incidents to twenty-five with the other scores scattered between them. Twenty-one children misplaced one incident, five children misplaced two, one child misplaced three, and three children misplaced five incidents. The remaining children failed to achieve a score. There seemed to be no relationship between high scores and correct sequence. In general, most of the children retold the story in very good sequence; only a few diverged from the correct order of events.

Conclusions and recommendations. A relatively high correlation was found between children's levels of usage in sentence structure and scores on reading readiness tests. An even higher correlation was found between children's reading readiness scores and their ability to recall a number of ideas or incidents when retelling a story. The ability to follow the sequence seemed to be high, regardless of the number of incidents recalled.

The level of these two factors in language development, therefore, seems to have a high relationship to children's reading readiness scores. It would seem that language development should be given a great deal of attention as part of the readiness program. Reliance on workbooks to the exclusion of language development seems to be of very dubious value.

5. Inductive versus Deductive Methods in Teaching Word-Attack Skills

JANE CATTERSON

No one can become a rapid fluent reader unless he has good word-attack skills. That is, he must have a grasp of the phonetic principles which operate in the English language and the ability to apply them to words at a glance. How are children to learn these principles? Should they be presented as part of a system of "rules" and the children trained to arrive at correct pronunciations deductively through application of these rules? Or may the desired grasp of principles be developed inductively as words are solved in a meaningful context, when no attempt is made actually to state the rule formally? In the deductive method, some value seems to be placed on the ability to state the rule. In the inductive method, no value is placed on the verbalizing of the rule—only on the ability to make it operate. Which method produces the best gains in word pronunciation, reading, and spelling? These questions were the basis of a recent study which investigated the relative merits of inductive and deductive teaching of word analysis.

This study was initiated in 1958 to investigate an apparent discrepancy between commonly held opinion about the teaching of word analysis and the results of research which had been done at Boston University in 1956 and 1957.

An investigation of the literature on the teaching of word attack shows that most writers suggest that children in the intermediate grades should approach word attack through a knowledge of the "rules" which govern syllabication, accent, and the pronunciation of vowels, and some understanding of the meaning of roots, prefixes, and suffixes. This theory of teaching word analysis is reflected in most manuals and workbooks of basal reader series and in independent "phonics" workbooks.

In apparent contradiction of the idea that "rules" teaching is required in the intermediate grades were the results of the Speidel and Spencer studies done in 1956 and 1957. Both studies showed that experimental groups which were given intensive practice in solving words in a meaningful context made greater gains in word attack ability than did control groups which used only the regular "rules" lessons provided in the basal reader program.

Both of the "meaningful practice" studies used a kind of word sorting exercise as a means of teaching word attack. Speidel wrote words on slips of paper and asked the children, working in pairs, to solve the words for sorting into boxes labeled with a category name. For example, boxes labeled *ZOO*, *FARM*, and *SCHOOL* were provided when the words *ostrich, kangaroo, tractor,* and *sharpener* were to be solved for categorizing. Each of the words was chosen with the idea that it should be a word understood by the children (that is, in their hearing vocabulary) but not yet presented in a reading lesson (that is, not yet in their reading vocabulary). The labeled boxes were, in effect, the context, and so the children, while sounding, were sounding in a meaningful context.

Doris Spencer used the same type of exercise in a different format. In her materials, the words to be solved were printed on lesson cards—25 words to a card, 30 cards in the set, all cards of the same level of difficulty. On each card were listed 3 categories, and the children, after having copied the category names from a card to their own lined paper, worked at solving the listed words to write them under the proper headings. Since no marks were placed on the cards, one set of 30 cards could be used to provide for 30 pairs of children at a time and might be reusable from year to year.

In both the Speidel study and the Spencer study, the experimental groups made much greater gains in word analysis ability than did the control groups which used only the regular lessons of the basal reader. Obviously, one could conclude that children would benefit from the addition to the basal reading program of intensive practice in meaningful word solving. That seemed clear.

What was not clear was why these lessons were so successful. Was it because the *type of exercise* used was better for teaching word analysis than were the lessons of the usual program, or was the *quantity of practice* responsible for the gains? It was considered that an answer to this question should be sought, and an attempt made to evaluate the relative merits of the two methods of teaching word analysis. The plan was made that one experimental group should be given the Speidel-Spencer type of practice, which seemed to teach word analysis inductively; that another group should be given equally intensive practice with the "rules" type of material; and that a control group should follow the regular program of word analysis in the basal readers.

Two sets of materials were constructed. The pattern for the deductive teaching was taken from commonly used workbooks and exercises in manuals. Tasks varied according to the type of exercise used but no attempt was made to provide practice which drew attention to the meaning of words used.

For the inductive exercises, the Speidel-Spencer type of exercise was used. Lists of words and 3 category names were placed on each lesson card. The task for each lesson was the same: to solve the words for placing into one of the three categories named. In these exercises, then, the final step always required a synthesis of word parts into a meaningful whole.

Each set of materials had thirty lessons, and each lesson used forty words. Practice was provided, then, with 1200 words. The word list was the same for both sets, ranging in difficulty from grade 3 to grade 8, and working conditions were the same for both experimental groups: children worked in pairs, and materials were self-administering, self-correcting, and self-recording.

Thirty grade 5 classes in suburban Boston participated in the study. Ten classes used inductive materials, ten used deductive materials, and ten classes acted as a control group.

The experimental materials were used over a period of 3 months, from late November, 1958 to early March, 1959.

The tests given at the beginning and end of the experiment were: a test of general reading ability, a spelling test, a word analysis test which was essentially a test of ability to spell parts of words, a test of visual memory, a homophones test, and a word pronunciation test.

Major findings were these:

1. Both experimental groups made gains in word pronunciation which were statistically superior to the gains of the control group. Neither set of materials seemed to be generally better than the other in producing gains, although there was some evidence that the "word sorting" exercise was better for initially low achievers than was the "rules" material.
2. For the most part, the difference between the groups was not great on the other tests, although such differences as existed seemed to favor the "word-sorting" method.

As an added comment on these findings, I should say that we were rather disappointed not to be able to draw any conclusions from the results of the reading test. Unfortunately, the test used showed that all groups actually lost ground as the test measured them. Something might have been able to be concluded from the fact that the children using the meaningful materials lost least and the control group lost most. However, we felt that we could draw no proper conclusions from these figures.

From the results of this study we concluded that:

1. Intensive practice in word attack beyond the program of the basal reader is of benefit to intermediate grade children.
2. Word-attack practice in the intermediate grades need not be confined to the "deductive" type of practice which has been used by basal reading systems, but may employ the type of exercise which requires much practice in solving words in a meaningful context. In fact, poor readers may benefit most from meaning practice than from "rules" practice.

The inductive (that is, the "word-sorting") materials of the thesis have been published by Harcourt, Brace & World under the title *Word Analysis Practice.*

6. An Experimental Evaluation of the Carden Method

JOHN A. MCCOLLUM

As the result of an article in the September 9, 1961 issue of the *Saturday Evening Post* entitled, "These Children Love to Read," the Mae Carden system of reading instruction has received a great deal of national attention.

However, the Carden program was brought to the attention of the Berkeley Schools during the summer of 1960 when Miss Carden conducted a series of lectures sponsored by a local organization known as "Parents for Better Education." At that time Miss Carden was quoted as saying, ". . . a bright child can be taught a thorough working knowledge of phonics and can be reading independently in any material that interests him after four months of hour daily lessons. The slower child is usually on his own at the end of the first grade." Also, it was stated that schools using the system report, "(1) never any nonreaders, (2) no retarded readers, (3) children with I.Q.'s as low as 75 are regularly taught to read."

The content of Miss Carden's lectures resulted in much concern in relation to the "unusually" heavy emphasis on phonics to the seeming neglect of other word attack skills; the distortion of letter sounds; the unusual method of phonetic notation; and the apparent lack of comprehension and critical reading skills.

However, in view of the fact that Miss Carden will not allow her materials to be purchased and/or utilized until one has attended her series of lectures, and in view of the great interest expressed by a large number of parents, it was decided to obtain the materials and structure a program to evaluate the Carden system.

During the school year 1960-61 this evaluation took the form of three teachers utilizing the total Carden program. A comparison of the reading results of their classes was made with three classes utilizing the Scott, Foresman Series. The experimental and control classes were matched as nearly as possible on the basis of age, sex, racial origin, intelligence, socio-economic background, achievement level of children; and the background and ability of the teachers.

In addition, six school districts which were reported to have utilized the Carden system successfully for a number of years were surveyed for pupil achievement. Five districts responded as follows:

School District No. 1
"Our pupils achieve well above marginal norms."

School District No. 2
"Excellent — No nonreaders at the end of grade one; scores in standard tests unusually high."

School District No. 3
"Excellent—almost phenomenal by standard test results."

School District No. 4
"While our reading scores compare favorably with national norms, it would be incorrect to say that all children are reading up to grade level. The great majority of our children read well above grade level, but we have the occasional child who reads

below grade level as I think is true in any school system. It is not a legitimate claim for the Carden material, or any other material, that every child will be reading up to grade level."

It should be noted that none of the above districts submitted achievement test results.

Table Number 1

School District No. 5
18 Years on Carden Program

READING TEST RESULTS

Tests: Reilly Primary—Grade 1
Stanford Primary "M"—Grade 2
Iowa Basic Skills—Grades 3-8

Grade	Number Tested	Median	Grade Range	Below Grade	% Below Grade	More Than 1 Yr. Below
1	60	2.8	1.4-3.0	3	5%	
2	59	4.5	2.8-6.4	0	0	
3	69	5.3	2.0-7.3	3	4	2
4	49	5.5	3.8-8.6	6	12	1
5	65	6.7	3.8-9.7	21	32	8
6	72	8.3	5.3-10.8	18	25	5
7	68	8.3	5.5-11.4	22	32	10
8	66	9.3	6.2-12.7	23	34	7
Totals	508			96	18	33

In reference to Table Number 1, the number of children reading below grade level should be noted. Research would indicate that pupils receiving an unusually heavy emphasis on phonics in the initial reading process, might have difficulty with the sophisticated reading skills of the upper-grade level.

Notice in Table 1 that an increasing number have difficulty at the intermediate and upper-grade level, with 34 per cent of the pupils reading below grade norm at the 8th grade level.

The following three tables illustrate a comparison between the Berkeley control and experimental groups. Although a statistical comparison cannot be made between the New Jersey and Berkeley test results, the New Jersey scores are also illustrated.

Table Number 2
COMPARISON OF FIRST GRADES

(High Socio-Economic Level)

	Berkeley Scott, Foresman	Berkeley Carden	New Jersey Dist. No. 5 Carden
Test	Calif. Reading Achievement	Calif. Reading Achievement	Reilly Primary
I.Q. Range	87-127	92-133	Above Average Community
Grade Norm	1.8	1.8	1.8
Achievement Range	1.8-4.2	1.8-4.5	1.4-3.0
Median Score	3.3	3.4	2.8
Number Scoring Below Grade Level	0	0	3

A comparison of the above Berkeley classes indicates no significant differences.

Table Number 3
COMPARISON OF FIRST GRADES
(Average Socio-Economic Level)

Test	Berkeley Scott, Foresman Calif. Reading Achievement	Berkeley Carden Calif. Reading Achievement	New Jersey Dist. No. 5 Carden Reilly Primary
I.Q. Range	68-142	68-133	Above Average Community
Grade Norm	1.8	1.8	1.8
Achievement Range	1.2-4.4	0.7-3.6	1.4-3.0
Median Score	3.7	2.8	2.8
Number Scoring Below Grade Level	3	10	3

A statistical analysis and comparison of the above Berkeley classes indicates a definite and significant difference in favor of the control (Scott, Foresman) class. However, variables which were not apparent at the time of selecting the control class invalidates the results of this comparison.

Unpredicted variables proved to be a significantly higher intelligence level of the control group, and the unavoidable absence for five weeks of the teacher for the experimental group.

Table Number 4
COMPARISON OF THIRD GRADES
(Above Average Socio-Economic Level)

Test	Berkeley Scott, Foresman Gates Reading Survey	Berkeley Carden Gates Reading Survey	New Jersey Dist. No. 5 Carden Iowa Basic Skills
I.Q. Range	88-147	87-150	Above Average Community
Grade Norm	3.8	3.8	3.8
Achievement Range	3.4-8.6	3.1-7.7	2.0-7.3
Median Score	5.4	5.1	5.3
Number Scoring Below Grade Level	2	5	3

A statistical analysis and comparison between the above Berkeley control and experimental classes indicates that there is no significant difference between these two groups.

In the March, 1961 issue of the *Reading Teacher,* Professor Arthur Gates published an article analyzing the achievement test results of a school system in New York which had utilized the Carden system for a number of years.

When one examines the reading achievement of the children in this school, as illustrated by Table Number 5, the results appear to be quite favorable. In all three grades pupils are about a full year ahead of their grade.

Table Number 5

	N	Average Number Years Carden	Actual Grade Position	Average Reading Grade	Difference
Grade 3	91	2.85	3.9	4.86	+0.96
Grade 4	80	3.33	4.9	5.97	+1.07
Grade 5	72	3.42	5.9	6.88	+0.98

Table Number 6

	N	Mental Grade	Reading Grade	Difference	AQ
Grade 3	91	5.30	4.86	—0.44	.92
Grade 4	80	6.10	5.97	—0.13	.97
Grade 5	72	7.00	6.88	—0.12	.98

However, when these scores are compared to the mental grade, it is obvious that these children do slightly less well than do children of the same age and intelligence generally in America.

During the current school year our evaluation has taken the following form. Twelve experienced and capable teachers have subjectively analyzed the materials; a linguistic analysis is being made by John Carroll of Harvard University (which we have not as yet received); and a survey has been made of other school systems in New York and New Jersey which have used, or are still using, the Carden program.

The *Saturday Evening Post* article indicated that over 90 public school districts in New York and New Jersey are using the Carden program. A careful survey by the New Jersey State Department of Education revealed that only 14 districts in that state are currently using the materials, with seven more having previously used the program and subsequently discontinuing its use.

Sources from New York uncovered only four school districts in that state currently using the program.

Questionnaires requesting achievement and intelligence test results were sent to all 25 districts. Responses were received from eleven.

School District No. 6

> "We find the Carden method to be a very successful method of developing word recognition skills."

Table Number 7

School District No. 6

Grade Level	Median I.Q. (C.M.M.)	Median Reading Achievement (Iowa Basic Skills)	Difference M.G. Minus R.G. (Estimate)
3	106	2.9	—.49
4	112	4.4	—.30
5	112	5.4	—.30
6	108	6.3	—.40
7	101	7.2	—.07
8	98	8.2	+.17

It should be noted that in grades 3-6, pupils are reading considerably below the national average.

School District No. 7

"If Carden is faithfully followed, the entire Language Arts program is effective. We do have difficulty in training new teachers in the system, but the greatest handicap is the increased enrollment, bringing new pupils of grades 2-6 up to date in a three to five week program. We have . . . a full-time reading teacher doing remedial as well as Carden introduction. . . .In September to November, the new pupils receive three lessons a week in addition to their regular class reading introduction."

School District No. 8

"Although our children are doing well, I would not advise a school system to adopt the Carden method. There are too many problems connected with it. It often becomes a parent problem if the system wishes to change, teachers become so dependent upon it they are afraid of any other series, spelling can be ruined for poor spellers, and the materials are poorly published. Its appeal lies in the quickness that children in the first grade begin to read. However, by the time the child reaches upper grades there is no evidence that he reads any better than those trained by other methods."

School District No. 9

The program is used in one first and one second grade class on an experimental basis.

"Metropolitan Achievement Tests and Gates Primary Reading Tests were given in both first and second grades. The Carden classes appear to do better in word recognition than do those taught by other basic series, but in comprehension and average or total reading the classes taught by other methods appear superior. In saying this we have taken into account the difference in ability indicated by group tests of mental ability."

School District No. 10

Discontinued because: "Our September tests showed a need for comprehension work in all grades, so pupils are currently working in the new Ginn Readers at levels which may be somewhat lower for this time of year in school systems where a Basic reader may have been used before.

"My predecessor, ... says, 'We have no non-readers in grade one.' Here we must define the term non-reader, because we do have many poor readers in our upper grades. Despite the use of three remedial reading teachers last year, we have a large number of second grade pupils who have yet to complete their primer readers. These pupils are not non-readers, but they are making what I call slow progress."

School District No. 11

Discontinued because: "The entire program presents a system of phonics. We felt that since children learn to read by many methods that a program offering a diversified approach (including phonics) would better suit our needs."

School District No. 12

Discontinued because: "Too narrow in approach to the developmental needs in reading. Reading content boring and unrelated to the lives of our children. Average and slow pupils were inclined to become 'word sounders' on vocabulary that should have been automatic. Mentally able children were slowed in reading. Testing programs in reading showed no over-all gain in comprehension achievement while reading rate dropped noticeably. After seven years of Carden, the percentage of children needing special reading help was greater than before Carden was begun. New children coming into the system who had had other reading methods, including phonics, found it difficult to change to Carden."

School District No. 13

Responded to questionnaire by indicating that their policy was such that they could not discuss or submit for examination their test results.

School District No. 14

"We used the system for a few years but it has been discontinued. Teachers were not too enthused to continue. We didn't think the program suited our needs."

School District No. 15

This school indicated that they have not used the Carden system. However, a number of pupils with previous Carden training have been enrolled. "I don't believe I should condemn the program on the basis of our few experiences. Perhaps just the unsuccessful ones reached us. However, we were not happy with what we had seen. These youngsters who should have been reading at least second grade level had no sight vocabulary and no word attack skills; they *could not read*. They were tense and generally disinterested in reading."

School District No. 16

Discontinued because: "Children's scores on standardized achievement tests in the areas of reading comprehension and vocabulary were very low; this was true even of children with better than average intelligence. Analysis showed that children could 'sound out' and say words, but they lacked comprehension of the meanings of those words. Further analysis indicated that the rate of reading was extremely slow; children were still concentrating on words rather than on phrases and sentences as meaning units. The Carden method had given the youngster an early advantage in *word enunciation only*.

Children lacked or were poor in:
Comprehension of the meaning of the material
Skills of interpretation, analysis and inference
A variety of reading techniques for different types of material
Dictionary skills (This is an area of great confusion due to the Carden notation, which is unique.)
Interest or enthusiasm for wide, independent reading."

Of the 12 teachers currently evaluating the Carden program, one teacher feels that the program has real merit; two feel that aspects of the program are worthwhile; and the other nine are convinced that the program if followed per *se* would be harmful to children.

Conclusion

Dishonest and distorted claims have been made to support the value of the Carden system of reading instruction. Available evidence overwhelmingly supports the belief that the majority of children can achieve at a higher level by the proper use of a basal system of reading instruction.

7. The Effects of Letter-Name Knowledge on Learning to Read a Word List in Kindergarten Children

SIEGMAR MUEHL

Research indicates that kindergarten children learn to discriminate words and associate word meanings on the basis of details associated with the stimulus configuration of the word (Gates and Boeker, 1923; Meek, 1925; Muehl, 1960). Children's descriptions of how they recognize a word, further indicate that they learn to associate familiar verbal labels with these details; e.g., the "dot" over the letter *i*, the "cross" on the letter *t*.

If this verbal labeling process is the basis for mediating word discrimination and meaning association, providing children with a consistent set of labels in the form of letter names should facilitate these processes, rather than leaving the child to evolve his own set of labels. Support for this assumption is found in Durrell's (1958) finding that knowledge of letter names was the best predictor of subsequent word recognition and reading performance in first grade children.

Related psychological research with children, however, has not consistently supported this assumption. When children were taught distinctive verbal labels to similar visual stimuli in pretraining, learning motor responses to the same stimuli in a transfer task was facilitated (Cantor, 1955; Norcross and Spiker, 1957). Figure 1, Table 1, see p. 131, illustates this learning situation. Theory suggests that the verbal labels learned in pretraining provide cues that make the original stimuli more distinctive and mediate acquisition of the second task responses (Miller, 1948). However, when children were required to learn verbal labels in the transfer task, interference resulted (Spiker, 1960).

Figure 2, see p. 131, illustrates this situation. Presumably the verbal labels learned in pretraining competed with the acquision of the new verbal response.

A comparable paradigm for learning letter names and using these names in word recognition is illustrated in Figure 1, Table 2, see p. 131. Note that the transfer task here requires relating a different set of verbal labels with stimuli similar to, but not identical with, the letters themselves, *i.e.*, words containing the letters. Theoretically, two results are predictable from letter-name learning. The letter name would provide a cue to mediate as illustrated in Figure 2, Table 2, or interfere or compete as in Figure 3, p. 131.

The purpose of this study was to assess these alternative possibilities.

Procedures

Pretraining

Eighty-seven kindergarten children (mean age 67.1 months) were divided into groups by the type of letter-name pretraining each group received. These pretraining groups are shown in Table 3, p. 131, left-hand side. The results in Replication I indicated that letter names of f, m, and g were more difficult to learn than j, u, and d. To avoid bias on the transfer task due to this difference in difficulty, Replication 2 was run as indicated. The procedure for presenting the letters is illustrated in Table 4, p. 132. Each pair was mounted on a card. Subjects learning to name seven of nine pairs correctly were assigned to Criterion groups. Subjects not reaching this criterion in seven runs through the pack of cards were assigned to Non-Criterion groups.

Transfer or Reading Task

Table 3, p. 131, the right-hand side, shows the transfer or word recognition task. In each replication the letter stimuli for discriminating among the non-sense words were the same letters used in relevant letter-name pretraining. The nonsense words were paired with pictures of objects for paired-associate presentation. Table 5, p. 132, shows the procedure. First the word at the left was presented with the picture covered. The children had four seconds to "read" the word by naming the picture. Second, the word and picture appeared together for three seconds. Third, the card opening was completely covered for two seconds. After appropriate familiarization instructions, each subject was given a total of 48 paired-associate presentations, 16 for each word-picture pair. When the subject named a picture correctly, he moved a bead across a counting frame. For each presentation, the child's response in the four second interval was scored as correct, as an error, or an omission, i.e., not saying anything at all.

Results

Pretraining

Table 6, p. 132, shows pretraining results for the combined replications. There were no reliable performance differences between the Relevant and Irrelevant groups.

Transfer Task

Since there were no reliable performance differences between the two replications on the word recognition task, the results have been combined for presentation in Table 7, p. 132. Non-Criterion pretraining groups made fewer correct responses and more omissions than the Criterion groups. However, there were no interactions in transfer task performance between these groups. Thus, for simplicity, the results for the Criterion and Non-Criterion groups have been combined in Table 7.

Looking first at correct responses, there was a significant difference in performance variability. The restricted variability of the Relevant groups was reflected in the range of higher scores. Only one Relevant subject scored 30 correct responses; seven Irrelevant subjects scored 30 or above. Although the Irrelevant groups made more correct responses, the difference between the groups was not significant. Analysis of omissions showed that the Irrelevant groups made significantly fewer omissions. There was no difference between the groups in errors.

Discussion

The results of this study show that learning letter names interfered with word recognition in kindergarten-age children.

Observation of the children's performance on the transfer task indicated this interference effect to be most directly reflected in the frequency of omissions in the Relevant group. A few children in the Relevant groups responded, overtly, with the letter namés, rather than the picture names when the words were presented. This typically occurred early in learning when the majority of the children in the Relevant groups were responding with omissions. Presumably most children quickly learned that the letter-name response was inappropriate to the words. However, since the letter name was the dominant response to the critical stimulus element in the words, this response had to be displaced. The omissions resulted, therefore, from a competitive blocking (Gibson, 1941) of the picture names by the more dominant letter-name responses (see Table 2, Figure 3, p. 131).

These results require some interpretation to fit, first, the assumption that children do use verbal labels of their own devising to mediate word recognition, and second, Durrell's (1958) finding that letter-name knowledge does predict reading performance.

1. Children's verbal responses to adults' questions about how they recognize a word may bear no relation to the identifying response children actually use when presented with the words themselves. This identifying response may be primarily non-verbal; *i.e.*, learning where to look (Kurtz, 1955). Thus, in the present study all subjects had to learn where to look in the transfer task. In addition, the Relevant subjects had to unlearn the letter-name response elicited by seeing the relevant letter.

2. Kindergarten-age children may not have the language skills necessary to utilize the information provided them by the letter-name labels. This explanation is supported by the exceptional performance of one child in the Relevant group in the preliminary testing. During the first few presentations of the reading task, this child consistently responded with the letter name. Beginning with the seventh presentation he began to mediate the letter response and picture name by using the words "goes with"; e.g., "f goes with boat." This child rapidly adopted this language mediating procedure with each word presented and quickly obtained a perfect score. No other child, in over 100 tested, overtly used this method of learning the word-name association. Children a year older may well be able to provide this language mediation (Kendler and Kendler, 1962) which could in part account for the results reported by Durrell (1958) for his first graders.

3. Finally, it is possible that the relation between letter-name knowledge and reading performance reported by Durrell resulted from the sound similarity between most letter names and their phonic value in word pronunciation. In the present study there was no relation between the sounds of the letter names and the sounds in the picture-name words (see Table 3). Sound similarity may provide a meaningful mediational link for younger children (Riess, 1946).

In conclusion, further research is needed to assess the function of language processes and sound elements in mediating word recognition in beginning readers.

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Table 1

Fig. 1

Pretraining Task

$S_1 \dashrightarrow R_1$

(visual) (verbal)

Transfer Task

$S_1 \dashrightarrow r_1 \dashrightarrow s_1 \dashrightarrow R_2$

(implicit) (motor)

Fig. 2

$S_1 \dashrightarrow R_1$

(visual) (verbal)

$$\begin{tikzcd} & r_1 \text{ (implicit)} \\ S_1 \arrow[ur] \arrow[dr] & \\ & R_2 \text{ (verbal)} \end{tikzcd}$$

Table 2

Fig. 1

Pretraining Task

$S_1 \dashrightarrow R_1$

(letter) (letter name)

Transfer Task

$S_1' \dashrightarrow R_2$

(word) (word name)

Fig. 2

Facilitation

$S_1' \dashrightarrow r_1 \dashrightarrow s_1 \dashrightarrow R_2$

(implicit letter naming)

Fig. 3

Competition and Interference

$$\begin{tikzcd} & r_1 \text{ (implicit letter naming)} \\ S' \arrow[ur] \arrow[dr] & \\ & R_2 \text{ (word name)} \end{tikzcd}$$

Table 3

Pretraining: Letter naming

Transfer Task: Word recognition

Replication 1

Relevant f, m, g

Irrelevant j, u, d

(pictures)

yfl - boat

yml - sled

ygl - cake

Replication 2

Relevant j, u, d

Irrelevant f, m, g

(pictures)

yjl - sled

yul - boat

ydl - cake

Table 4

Pretraining Task
Procedure (R-1)

Relevant	Irrelevant
f f	j j
f m	j u
f g	j d
m m	u u
m f	u j
m g	u d
g g	d d
g f	d u
g m	d j

Table 5

Transfer Task
Procedure (R-1)

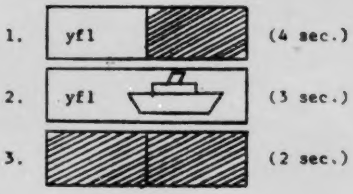

Table 6

Pretraining Results
(Both replications)

	Relevant	Irrelevant
Criterion Groups		
M (trials)	4.00	4.35
s.d.	1.69	1.97
N	23	23
Non-Criterion Groups		
M (CR's)	22.00	21.40
s.d.	6.04	7.36
N	21	20

Table 7

Transfer Task Results
(Both Replications)

Pretraining Groups	N		CR's	Omissions
Combined Relevant (C+N-C)	44	M	18.48	9.52
		s.d.	5.49	5.95
Combined Irrelevant (C+N-C)	43	M	21.02	6.77
		s.d.	7.99	5.95

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8. Children Who Show Undue Tension When Reading: A Group Diagnosis

MILDRED C. ROBECK

Among students who experience unusual difficulty in learning to read, there are some who show extreme tension when confronted with the necessity to read. Psychometrists, for example, may note good rapport with certain subjects until that point in the WISC where they are asked to read the arithmetic problems; or in the Binet (Form L-M) to read the sentences which make up the Minkus Completion Test. Reading clinic teachers observe that some children, although relatively relaxed during conversation or story writing, become tense upon being asked to read.

In this study *undue tension* was regarded as a state of uneasiness, indicated by emergent behavior which was observable in the lesson setting. Combinations of two or more of the following forms of behavier were considered indicative of undue tension: tautness of posture, strained voice (high, nasal, or breathy), paleness of face, perspiration on forehead, increased stammer or loss of speech, random movements, decreased motor skill, deterioration of rapport, and sighing or deep breathing. Readers were regarded as unduly tense when they repeatedly demonstrated greater emotional involvement in reading than in non-reading tasks.

Problem

The purpose of the study was to determine whether tense readers had characteristics in common which, if known, might be further explored in a symptomatic approach to diagnosis.

Problem 1: To analyze and describe the oral reading characteristics of clinic children selected for undue emotional involvement associated with reading.

Problem 2: To test the null hypothesis that intellectual strengths and weaknesses are the same in tense readers as in clinic children who lack word-attack skills, but do not show comparable stress in reading situations.

Problem 3: To compare reading achievement and reading potential as indicated by selected group and individual tests.

Problem 4: To isolate clues revealed in the backgrounds of the children which might provide the basis for a more systematic investigation of causal factors in reading disability.

Subjects

The subjects were 20 reading clinic children, selected over a period of three years from 119 cases. There were 16 boys and four girls who ranged in age from 7-1 to 14-8, in grade from 2.1 to 9.7 and in Full Scale IQ from 93 to 136. Children with serious emotional problems were not selected if reading situations presented evidence of stress no greater than similar non-reading tasks.

Procedure

Oral Reading Analysis

Oral reading samples were recorded on magnetic tape. Errors were transcribed on reading sheets and tabulated. Each type of error was reduced to frequency in 100 running words. Means and standard deviations were determined. The error characteristics of readers who lacked word-attack skills but did not reveal pressure symptoms (1) were used as a point of reference for an appraisal of error frequencies.

Samples in which each type of error fell within one *SD* of the mean were selected as "typical" and were analyzed for dominant patterns of error. All recordings were re-examined for evidence of the characteristic combinations of errors observed in the typical cases. A recording was prepared which included samples from several of the tense readers and demonstrated this type of reading.

Intelligence

The Wechsler Intelligence Scale for Children was administered to 20 clinic children in the experimental group and

Table 1
ORAL READING ERRORS

	Range		M		SD	
Types of Errors	TR*	LW-A**	TR	LW-A	TR	LW-A
Fluency Errors						
Repetitions	3-18	2-31	7.02	16.60	3.88	6.18
Stops	4-23	25-49	10.10	37.00	4.94	6.15
TOTALS			17.12	53.60		
Recognition Errors						
Insertions	0-4	0-8	1.33	2.05	1.22	2.50
Substitutions	4-16	15-42	10.07	27.85	4.62	6.36
Refusals	0-17	0-37	3.09	17.95	3.86	9.99
Omissions	1-4	0-5	1.77	1.85	1.04	1.42
Reversals	0-2	0-2	—	—	—	—
TOTALS			16.26	49.60		

*Tense Readers (N = 15)
**Readers Who Lacked Word-Attack Skills (N = 20)

to 20 clinic children who were selected for absence of stress symptoms associated with reading. According to clinic procedure, the interpretation of each child's performance was based on subtest deviation from his own scaled score mean. The *SEm* appropriate for the child's age group was used to determine whether deviation was significant (2).

Achievement and Potential

Children in the primary grades were administered the Gates Advanced Primary Reading Test, Types 1 and 2, Form 1. The older elementary school students were administered the Durrell-Sullivan Reading Achievement Test, Form A or B. Junior high and high school students had the California Reading Test.

Expected reading levels were calculated by the formula: (years in school x IQ) + 1.0. Mean differences between reading capacity and silent reading abilities were determined. Error ratios for oral reading samples were obtained in Problem 2.

Causal Factors

Cumulative folders of each of the 20 children were examined and factors generally regarded as related to reading difficulty were itemized.

Results

Oral Reading Characteristics

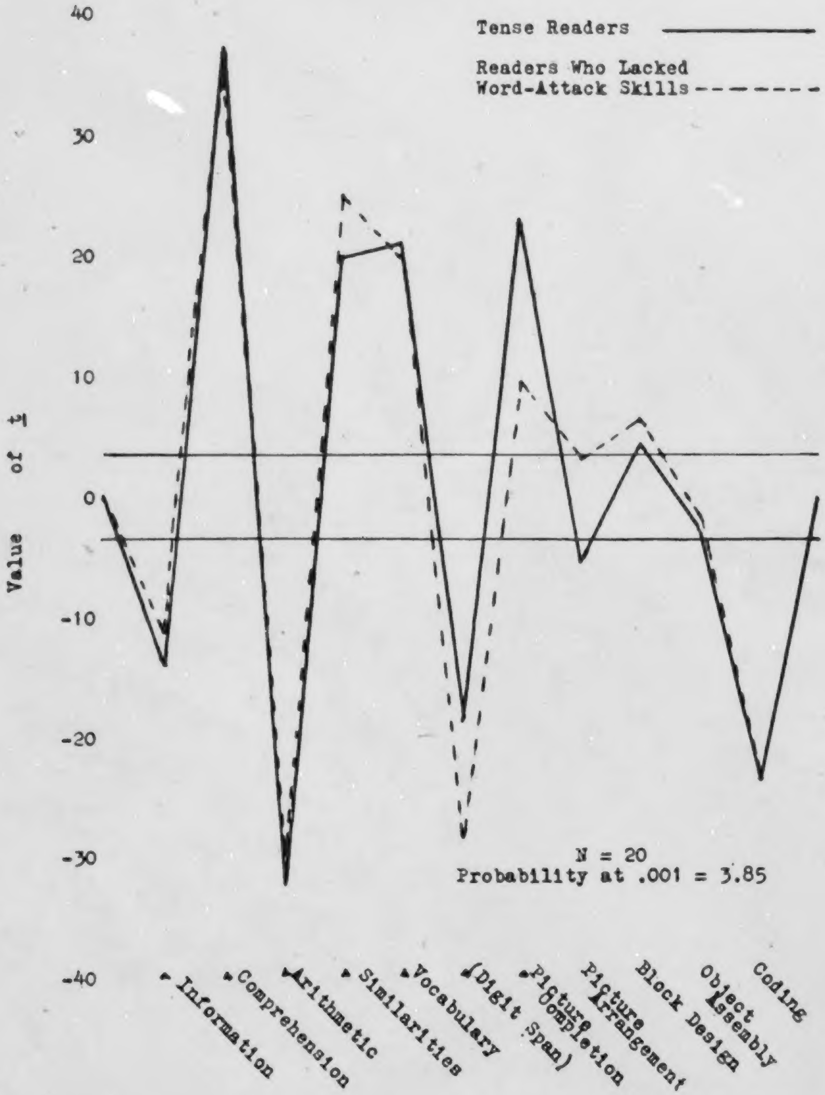
Five of the children were unable to provide an adequate sample at first-grade level. Samples of errors from the fifteen remaining cases were summarized in Table 1.

The tense readers emerged with fewer errors than were shown by the control group, although the criteria used for selection of the material to be read was the same. In both groups the fluency errors represented about half the total errors. Both groups made substitutions more frequently than other types of recognition errors. Both groups tended to substitute words with like beginnings and similar configuration; but these made sense in the preceding context. Little evidence was indicated of the inspection of the remainder of a sentence for context clues.

Five reading samples remained as typical after elimination of all samples which deviated more than one sigma in any error category. Each of these subjects revealed tenseness in voice and in reaction to the materials. They showed a compulsion to "keep reading" and tended to make substitutions rather than to have the word supplied. Repetitions occurred when the context did not make sense, to correct a substitution, and on known words when an unfamiliar word was encountered. Two of the children tended to stop after an error, then proceed without correction; three tended to stop and correct, even when the error was minor.

Table 2

WISC SUBTEST DEVIATIONS



A re-examination of the fifteen reading samples showed that all tense readers made some stops in situations where no immediate recognition difficulty confronted the reader but where an error had been committed. Nine of the children tended to correct the previous error; six showed a reluctance to correct and usually proceeded without correction. Seven of the children, including some who showed a reluctance to correct, made repetitions on familiar words or phrases.

Intellectual Functioning

Children whose oral reading was accompanied by extreme tension showed a WISC profile which was similar to control subjects in ten of the eleven subtests (Table 2). Both groups revealed significant weakness (beyond the .001 level) in Information, Arithmetic, Digit Span, and Coding. Both groups showed significant strength (beyond the .001 level) in Comprehension, Similarities, Vocabulary, and Picture Completion.

Both groups were significantly high in Block Design (.001 level). This result was interpreted with caution, however, because an earlier study had shown extreme deviation at both ends of the continuum in Block Design, Picture Arrangement, and Object Assembly (3). Neither group deviated to the .01 level of confidence in Object Assembly.

Non-tense problem readers were significantly strong (.01 level) in Picture Arrangement and tense readers were significantly weak (.001 level). Although the sample was small, the low scores of the older boys in this sample suggest further investigation into the possible use of this subtest as a diagnostic instrument.

Reading Potential and Reading Achievement

Three primary age students averaged 1.8 grades below expected achievement on tests of silent reading ability. Nine upper elementary pupils showed a *M* negative difference of 2.6. Five junior high and high school students in the sample averaged 2.8 grades below potential by the formula (Table 3).

Results indicated that the oral reading samples were very similar in difficulty to the indicated silent reading abilities. However, the recognition errors ranged in frequency from seven to nine running words. This was far below the 1:20 error ratio usually recommended as an appropriate level for instructional purposes.

At least two different interpretations seemed reasonable. (1) Students with this type of reading problem may read much better silently than orally; or (2) the silent reading abilities shown on these tests may have reflected the generally high intelligence of these students, and the ability to handle the test situation more adequately than reading skills justified.

Possible Causes of the Reading Difficulty

The files which were reviewed included diagnostic summaries, a questionnaire returned by parents, summaries of school records, notes from interviews, and reports from a variety of persons who may have examined the student. Many formal and informal tests were used on a selective basis, so that some children, but not all, would have had laterality tests, tests of auditory discrimination, aptitude tests, diagnostic tests, and others. A reasonably firm basis was evident in the records for

Table 3
EXPECTED AND ACTUAL READING ACHIEVEMENT FOR THREE GROUPS

Grade Range	N*	Expected Reading Level**	Silent Reading Level	Mean Difference	Oral Reading Level	Oral Reading Error Ratio***
1-3	3	3.8	2.0	—1.8	1.8	1:7
4-6	9	5.9	2.8	—3.1	2.6	1:6
7-9	5	9.3	6.5	—2.8	7.0	1:9

*N = 17 (Three children had no adequate measure of achievement.)
**(Years in school x IQ) + 1.0
***Recognition Error: number of running words.

each of the factors entered in Table 4. Most of the items from case histories were checked not systematically with each of the subjects, but were entered when observed in the clinic.

Summary

1. Children classified as tense readers were observed to substitute for words not known rather than to have them supplied by the examiner. Their substitutions were words of like beginnings, of similar configuration, and they made sense in the context. Some children kept reading in spite of recognition difficulties, some made repeated repetitions of known words while they analyzed unknown words, some stopped after errors and proceeded without correction. Frequent errors resulted in marked increase in tension symptoms.

2. The null hypothesis that intellectual strengths and weaknesses in tense readers are the same as those revealed by reading clinic children who do not show stress in reading situations was upheld in ten of eleven WISC subtests. In Picture Arrangement non-tense problem readers ranked significantly high; while the tense readers ranked significantly low.

3. On tests of silent reading ability student groups performed from 1.8 to 3.1 grades below estimated potential. They were not able to demonstrate instructional level abilities when asked to read orally at the level of competence indicated on the tests.

4. Twenty-seven factors thought to be related to reading difficulty were identified. In order of frequency those which ranked highest were: (1) Poor visual memory, (2) Family pressure to succeed

Table 4

FACTORS ASSOCIATED WITH READING DIFFICULTY

Items from Case Histories	Incidence
Poor visual memory	13
Family pressure to succeed in school	12
Poor auditory memory	12
Lack of auditory discrimination	10
Mixed lateral dominance	10
Minimum entrance age (youngest ¼ of class)	9
Over-dependence	9
Inadequate personal adjustment	9
Socially immature at first grade level	8
Distractible	7
Delayed articulation	7
Family crises during primary grades	6
High-strung—excitable	6
Frequent changes of schools during grades 1-3 (3 or more)	5
Inadequate social adjustment	4
Lack of mental readiness when beginning first grade	4
Reversal tendencies	4
Respiratory ailments during pre-school period	4
Correct visual difficulties	4
Hyperactive	4
Minimal brain damage	3
Tonsil-adenoid removal	3
Poor motor coordination	2
Abnormal birth history	2
Prolonged high fever illness	2
Delayed toilet training	2
Lack of visual discrimination	1
TOTAL	159

in school, (3) Poor auditory memory, (4) Lack of auditory discrimination, (5) Mixed lateral dominance, (6) Minimum entrance age.

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9. Testing Flexibility in Reading

SISTER MARY THEOPHEMIA, C.S.S.F.
(Felician)

The purpose of our reading influences the method we employ and the rate at which we read. As teachers we should give the student a general knowledge of study skills with due emphasis on adapting their reading to the various types of materials they will encounter throughout the day. A discussion of the different content areas will lead the students to realize that reading approach is influenced by a few vital factors: difficulty of the material, amount of reader's background information on the topic, vocabulary and style of the author, and purpose for reading.

It is of utmost importance to know how to shift from one type of reading to another, from skimming to reading for general highlights, or to careful reading for detail or study. Each of these involves its own specific purpose and method. If all we want from a particular story is a general idea, or if all we want from the daily newspaper is some general information on current issues, we can then employ a certain type of skimming. Some people refer to such skimming as reading with a hop, skip, and jump. Read selectively the important words and skip over the others.

At times we look for key thoughts in a paragraph. This may reduce the speed of our reading, but it is better to read slower with comprehension than to slide over words fast and fail to grasp the meaning. Practice in selecting main ideas, however, will gradually lead to increased speed in reading.

The need for flexibility in reading is greater today than it has been in the past. If we are to educate our youth to be more versatile in their reading, it seems only logical that we at first measure their present reading rate at different types of materials.

To meet this goal, several formal and informal measures of reading flexibility are available.[1,2,3,4,5] With this objective in mind I administered one of these, the Reading Versatility Test,[6] to 450 eighth grade students in several schools in Milwaukee and in Chicago.

The Reading Versatility Test has been designed to be used with pupils in the fifth through ninth grades who possess fifth-grade fundamental reading skills. The purpose of this test is to help teachers locate the level of reading proficiency of their students. It awakens in students a desire for practice in the skill of flexibility. The test consists of five parts, each of which requires a different reading approach. The purpose of each selection is clearly stated and students adapt their reading rate to meet the given objective. Likewise, each part is carefully timed. A convenient table is set up for converting time of reading to words per minute. However, there is no prescribed reading time limitation.

In Part One, the students are told to read the story very carefully and accurately: to understand its main idea, its important facts, and its details. Nothing is said or implied about reading the selection only once. A simple-scoring, ten-item multiple choice quiz follows the reading. The answering of the questions is not timed.

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[1] Charles T. Letson, *The Construction and Evaluation of a Test to Measure the Flexibility of Reading Rate*. Unpublished doctoral dissertation, Boston University, 1956.

[2] William D. Sheldon and L. W. Carillo, "The Flexibility of Reading Rate," *Journal of Educational Psychology*, 43, May, 1952, pp. 299-305.

[3] William D. Sheldon and L. S. Braam, *You Read—But How Well?* Syracuse: Syracuse University Press, 1958.

[4] George D. Spache, "Diagnostic Tools," *Fifth Yearbook* of the Southwest Reading Conference, 1955.

[5] Arthur S. McDonald, "Factors Affecting Reading Test Performance," Ninth Yearbook of the National Reading Conference, TCU Press, 1960, pp. 28-35.

[6] Published in two formats (one for use with instrumentation and one for administration as a paper-and-pencil test) by Educational Developmenteal Laboratories, 1961.

The reading rate of the 450 students that we tested in Part One ranged from 140 to 758 words per minute with a median of 225 words and 70 per cent comprehension.

Part Two of this Versatility Test requires fast reading and understanding the main points. The range here was very similar to that of Part One: 111 words to 758 with 223 words as the median rate. Comprehension was slightly higher, 80 per cent. Only 138 of the 450 students had a reading rate higher for Part Two than for Part One.

A random sampling of one-ninth of the group tested disclosed the following interesting figures:

In Part One, this group had a reading rate range from 165 words per minute to 379 with an assumed mean of 237 words. The Standard Deviation was 62.3.

The reading range of Part Two was considerably greater: 152 words to 474 words per minute. The assumed mean was 223; Standard Deviation, 92.8.

Part Three showed a far greater spread in the reading rates. From a low of 210 words per minute to 1264 words. The assumed mean in this selection was 542 and the deviation, 302.2.

The ratio of flexibility was also computed: Part Two to One; Three to Two; and Three to One. In the computation of Part Two to Part One, we received .73 to 1.4 with a median ratio of 1.06. Part Three to Part Two ranged from .71 to 5.6 with 2.0 as the median. In Part Three to One the range was from .93 to 5.6.

Parts Four and Five dealt with skimming and the results proved that many children read rather than skimmed the given selections. The low in Part Four was 172 words per minute and in Part Five it was down to 99 words. One could hardly call this skimming.

Fifty-seven of the 450 students tested or about 12.6 per cent made a wrong choice in Part Four; 52 students scored incorrectly in Part Five. Since the selections are identical in content in Parts Three, Four, and Five, one might assume that students would remember the answer. This, however, did not seem to be the case as shown by individual scores.

In another study of one hundred eighth-grade students in schools in the state of New Jersey, results were obtained very similar to those discussed above. For example, the mean rate for Part One was 253 words per minute with 60 per cent comprehension; for Part Two, 237 words per minute with 80 per cent comprehension.

From these studies the conclusion may be drawn that the over-all picture of this Reading Versatility Test shows great lack of flexibility in reading among upper grade elementary school children. In general, this test indicates: (1) the rate at which a student reads different types of materials; (2) the ability to shift reading approach to meet the need; (3) the rate of reading as converted to definite figures; and (4) the degree of comprehension as compared with reading time.

A follow-up study using Form B of the same Versatility Test would perhaps reveal more interesting facts and startling results. On the basis of these findings, one conclusion emerges clearly: we must put more emphasis on teaching for flexibility in reading.

10. Reading Disability: Part of a Syndrome of Neurological Dysfunctioning[*][†]

N. DALE BRYANT

There is much disagreement as to the nature and cause of specific reading disability. Robinson (6), Monroe (4), and Vernon (7) have similar reports which conclude that reading disability probably results from varying combinations of many possible factors and that the characteristics shown by two cases are likely to be different. Hermann (3) caustically disagrees with this view and, like Hallgren (2), considers the condition to be not only a diagnostic entity, but one which is clearly a genetic defect.

When cases of specific reading disability are examined intensively for perceptual errors, for simple learning and memory defects, and for the nature of the response in reading performance and reading instruction, similarities become apparent. The author has had an opportunity to examine several hundred reading disability cases in an interdisciplinary setting and finds that clinical observations and research results can best be explained by a model of neurological dysfunctioning.

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[*] This paper results from an investigation supported in part by a PHS project grant OM 225 from the National Institute of Mental Health, Public Health Service, and also a research grant from the Association for the Aid of Crippled Children.

[†] The author will send on request a more comprehensive treatment of the evidence for the theoretical position stated in this paper which could not be included due to limitation of space.

General Concept Basic to the Theoretical Model

Most specific reading disability seems to be a result of neurological dysfunctioning (not necessarily brain *damage*). Since the areas and interactions of the brain which are involved may vary in extent and in location, considerable variability can exist for associated conditions and even for characteristics of the reading defect. The perceptual, learning, memory, and performance defects common to most disability cases and the commonly associated defects in other neurological type difficulties give strong evidence of being a syndrome of neurological dysfunctioning.

Role of Emotional Problems in Primary Reading Disability

This position does not in any way contradict the existence of emotional problems among reading disability cases. On the contrary, the author feels that emotional difficulties are almost universal among reading disability cases. Most children with reading disability feel different, inadequate, stupid, and both frustrated and guilty because of their failures. Emotional problems may be a direct result of the failures and conflicts resulting from the disability, the result of confusion and the vulnerability to emotional stress caused by neurological problems, or may be independent of the reading disability.

A Model of Neurological Functioning in Word Recognition

In considering the nature of neurological dysfunctioning related to reading disabilities, a model of visual word recognition such as the one in Figure 1 is useful. It is based upon the analysis of performance of reading disability cases, studied by the author, the experiments on cortical stimulation primarily by Penfield and Roberts (5), the research and discussion of aphasia by Brain (1) and others, as well as general studies in the area of psychophysiology.

In the instant that the eyes fixate upon a word, the visual sensations are transmitted to the cortex where the multitude of visual cues coming from every line, curve, gap, etc., of every letter is initially perceived in terms of figure-ground relationship, contours, and other basic perceptions (A).

> Except for cases where extensive cerebral damage or dysfunction is present, there is little difference between reading disability and normal cases in discriminating between very different gestalts of forms or words. The word "play" is not confused with "dog" after one or two presentations.

In function B, the primitive perceptions of A are more completely perceived as word parts (primarily letters) through the utilization of neurological traces or "images" that have been previously built up in learning to read. For example, the discrimination between the letters *r* and *n* and *m* are made when the cues of a letter shape differentially stimulate the neuron assemblies which represent the memory trace of this word part. Neural activity relating to other letters being perceived and neural activity related to what word is expected from context, as it is constantly modified by the ongoing perception of word parts, will influence the perception of every letter.

> Reading disability cases make few visual discriminations of what letters are within a word. This is commonly seen in confusions of *them, their, this,* etc., so typical of reading disability or beginning reading. Some disability cases have well established letter traces (B), as indicated by their ability to name the letter and print it from memory, but they do not have an effective association of the letter form with the sound or phoneme associated with it (B-B′). This difficulty is usually obvious in the consistent phonic problems exhibited by many reading disability cases.

Through neural traces that have been established by the relationship between word parts, the traces representing letters

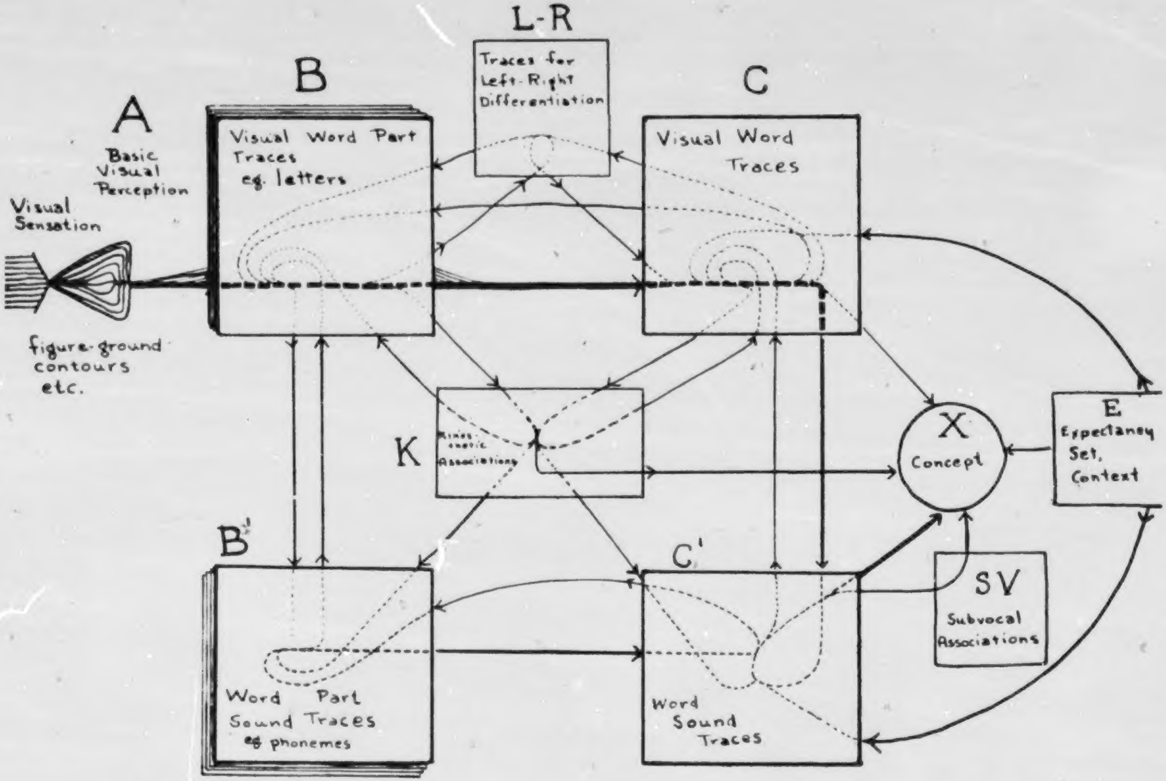
L-R
Traces for Left-Right Differentiation
B
Visual Word Part Traces eg. letters
C
Visual Word Traces
A
Basic Visual Perception
Visual Sensation
figure-ground contours etc.
K
Kines-thetic Associations
X
Concept
E
Expectancy Set, Context
B'
C'
SV
Subvocal Associations
Word Part Sound Traces eg phonemes
Word Sound Traces

Figure 1 - Model of Visual Word Recognition and Word Learning

are integrated so that together they become (or that they stimulate) a trace that represents the word form. Since the child understands speech before he learns to read, the build up of neural traces representing forms of the words (C) is mediated by the already established word sound patterns (C′).

> While the association (C-X) of a word form trace (C) with a neural trace that represents a concept (X) can occur, some sound association (C-C′-X) is usually needed. In reading disability cases (C) is often poorly established and C-C′ is nearly always defective.

Those aspects of the body schema traces which represent the discrimination of left and right (LR) are important in functions of letter and word perception, as indicated in the diagram (B-LR-B and C-LR-C). The reinforcing roles of kinesthetic (K) and subvocal (SV) association, as well as the selectively facilitating and inhibiting role of feedback and expectancy (E), are obvious from the diagram.

The Reason for a Common Neurological Syndrome

The impression from the diagram that many points of defect can produce reading disability is correct, and rare cases of very specific dysfunctioning can be found. The single syndrome of neurological dysfunctioning, which is commonly seen, results from the following conditions: (1) Cerebral dysfunctioning is likely to involve cortical tissue and connections which mediate different functions, thus increasing the complexity of the dysfunctioning. (2) Inefficiency in an early phase of a neurological sequence produces some degree of dysfunctioning in later phases and even in phases receiving feedback from the defective phase. (3) Similarly, because of the likelihood of general involvement of adjacent areas, nonreading functions are likely to be involved in the neurological syndrome.

> The neurological inefficiency which produces reading disability is almost certainly in the temporal, parietal, and occipital association areas in and around the angular gyrus of the dominant hemisphere (usually left even in left-handed individuals), or in the cortical-cortical and cortical-thalmic-cortical connections which serve these areas. Injury in this area will produce alexia or loss of ability to read. Involvement of adjacent areas or connections would produce the very associated difficulties, usually seen in cases of reading disability.

(4) Also contributing to the nature of the syndrome, is the fact that some functions (e.g., resistance to distraction) are almost always interfered with when any substantial amount of cerebral tissue does not function efficiently.

In many cases of reading disability, there is direct evidence of neurological dysfunctioning in the form of border-line or abnormal EEG records, inability to perceive spiral after-image effects, hyperactivitity, impulsivity, paradoxical reaction to cortical stimulants, late development and continuing difficulty with speech, and an aphasoid type of confusion of time sequences and spatial sequences.

In contrast, it must be noted that a gross neurological examination is seldom helpful in detecting neurological dysfunctioning unless the dysfunctioning involves gross sensory or motor defects.

The Causes of the Neurological Dysfunctioning

There is not space to discuss the cause of the neurological dysfunctioning, but evidence suggests that in most cases it probably results from genetic characteristics, maturational lag, or developmental defects due to prenatal complications. In some cases, birth injuries, anoxia, concussions, and high fevers can be the cause. Greater vulnerability of boys to developmental defects or later injury, as well as the possibility of sex-linked or influenced genetic factor, can explain the prevalence of boys among reading disability cases.

Conclusions

While specific reading disability can result from numerous causes, a consistent pattern is shown in most cases which can be meaningfully explained as an aspect of neurological dysfunctioning. Both the nature of the reading difficulties and the nature of the associated difficulties provide very substantial evidence in support of this explanation. At the same time, a model of neuropsychological functioning in the act of word recognition readily accounts for the variability seen among reading disability cases. Reading disability, when it is specific and, particularly when it is severe, probably represents a primary disability based upon neurological dysfunctioning. Associated symptoms of other neurological difficulties (not necessarily gross signs) are usually present and help confirm the diagnosis of a syndrome of neurological dysfunctioning which includes reading disability.

Implications for Reading Specialists

Just as many reading specialists have been prone to consider neurological dysfunctioning as necessarily involving gross sensory and motor defects, they are equally inclined to consider a case diagnosed as neurological dysfunctioning as beyond their help—and probably hopeless. This is not the case. With accurate identification of the dysfunctioning, specific techniques can be instituted to circumvent or override the dysfunctioning and such techniques can be very successful. Principles for dealing with such cases can be clearly delineated and will prevent the "hit or miss" remedial techniques that are often used and are frequently unsuccessful. Recognition of neurological difficulty and particularly identifying the points of defect in a model such as presented in Figure 1, can contribute to a reading specialist's understanding, diagnostic skill, and remedial success.

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11. Speed, Comprehension, and Power in Reading[1]

JACK A. HOLMES

Introduction

Speeded reading is demanded by the tempo of the times, but the keen appreciation of crucial ideas, the understanding of those great concepts which have taken the human race thousands of years to evolve, need not, indeed cannot, be fully grasped as one's speed approaches its limit.

The secret of good reading lies in the ability to know when and how to change pace. The mundane material concerning the commerce of life may well be read quickly, but when one comes to the crux of the message, or when one fortuitously encounters one of those fountainhead concepts from which ideas flow, then one must deliberately drink the delightful draught until the full meaning has been drained. Even then, such passages are wellsprings that may be read again and again, each time affording the reader a little deeper insight, a greater understanding, a new zest for life!

Indeed, the deepest satisfactions come not when one is able to read a book in 30 minutes flat (the goal stressed by some teachers today), but rather when one chances upon a beautifully written passage carrying so much meaning, sparkle, and conviction that it verily sings—as it clarifies the meaning of life and causes one to bring his value system into closer harmony with the realities of the universe.

My first point then, is this: If one already *knows how* to read, his *rate of comprehension* of the printed page can be increased enormously by persistent practice on easy material over an extended period of time. This is all to the good. Nevertheless, as one pushes his speed above the four to eight *hundred* words-per-minute mark into the next higher order of magni-

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[1] This paper draws heavily upon a research study done by the speaker and Dr. Harry Singer, "The Substrata-Factor Theory: Substrata Differences Underlying Reading Ability in Known Groups." This study was a Cooperative Research Project supported by the University of California, the United States Office of Education, and the Carnegie Corporation of New York. This monograph is now on the press and in October will be available from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

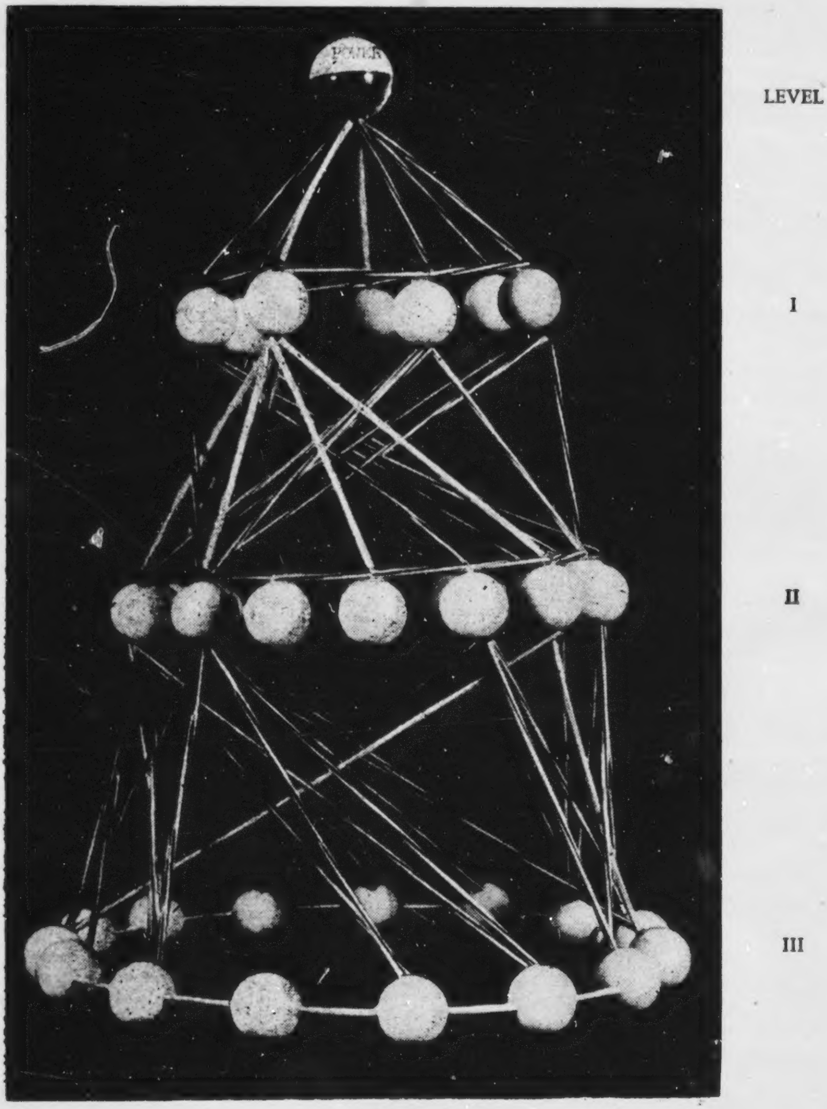
POWER
LEVEL
I
II
III

Fig. 1. Diagrammatic model of a working-system for power of reading. See text for explanation.

tude, say two to eight *thousand* words per minute, the reader simply rides in on the crest of the wave. As his eyes race down the page, it is true that he may learn to catch the gist of the story; but the beauty of the syntax, the style, the sting, the twinkle, the music in the well-turned phrase, the technical explanation, or logic of a philosophical discussion cannot be truly pondered, grasped, and appreciated. One may gain a knowledge of a subject by speeded reading, but he cannot gain a *working knowledge* of it. To achieve such a working knowledge, technical mastery of scientific material, or high appreciation for the music and sense of great literature, one must read not for comprehension alone, but for *power*—and it is just this *power of reading* that I wish to discuss with you. That is, what is it that makes for power in reading; and what exactly is meant by the word "power" when used in this context?

The Theory

It was my intent, a moment ago, to imply that theory and fact can be brought together to explain just what it is that makes one student differ from another in his ability to read with what I term "power." To this end, then, I will first outline the basic essentials of the Substrata-Factor Theory; and second, I will report some of the findings of an experiment we have recently completed in our laboratories at the University of California.

The Substrata-Factor Theory of Reading is concerned with the way the mind *mobilizes* sets of *sub-abilities* (which we will refer to as elements) into an ordered arrangement or hierarchy. In varying degrees, according to their existing strengths, the elements of this hierarchy simultaneously stimulate and reinforce each other. They compare and contrast incoming information with existing knowledge leading to a new conception, a new working knowledge, gained from the reading material. This complex ability, with its various elements, we have sought to measure and have termed it "power of reading."

The Theory holds that the auditory, visual, and kinesthetic components of incoming information are ordered and stored in localized cell-assemblies in the brain. Individuals differ in the degree to which they tend to use one of these input channels over others. At the high school level approximately two-thirds of the students are predominantly visually minded; somewhat *less* than one-third will learn better through their auditory senses; and a small percentage (mostly boys) must rely heavily upon the proprioceptive or kinesthetic senses as their most efficient input channel. This part of the Theory gives us the key as to why the majority of a class learn quickly and easily by the Look and Say method, why some children appear to thrive under a system that stresses phonics, and why still others who fail to learn by either of these methods are, in fact, able to learn to read by Fernald's tracing method.

Sets of these cell-assemblies form centers, each with its distinctive function. Oversimplified:

1. The function of one center is to store the memory traces from visual impulses which arise when viewing a concrete object.

2. The function of a second visual center is to store *symbolic representations* of the *ideas about* concrete objects, relationships, or other ideational abstractions. Here, then, is where words are perceived, registered, categorized, and filed for future reference and recall.

3. A third center stores auditory impulses which carry information conveyed by *spoken* language.

4. A fourth center stores kinesthetic impressions from tactile and muscle sensations. The location of such centers in the brain is a long-established anatomical fact (1).

According to the Substrata-Factor Theory, as a result of the on-going cerebral activity during the act of perception (as in reading), the details deposited in the separate centers are now reassociated as faithfully coded representations of the objects themselves. In other words, during reading coded audio-visual and kinesthetic impressions derived from the descriptions of concrete objects are reassembled in the mind—this is comprehension. However, simultaneously with the foregoing process, as a result of the heightened cerebral activity engendered by increased concentration, conceptual abstractions are

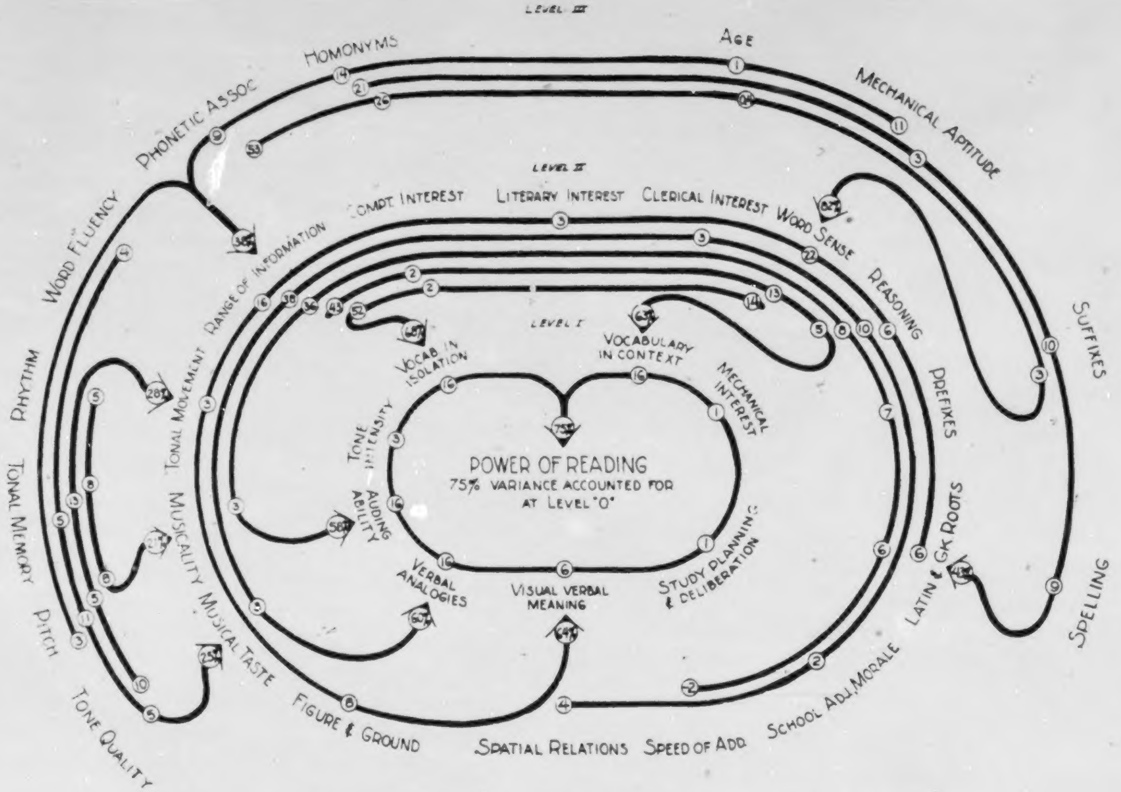
LEVEL III
LEVEL II
LEVEL I
POWER OF READING
75% VARIANCE ACCOUNTED FOR AT LEVEL "0"
AGE
HOMONYMS
PHONETIC ASSOC
MECHANICAL APTITUDE
WORD FLUENCY
RHYTHM
TONAL MEMORY
PITCH
TONE QUALITY
SUFFIXES
SPELLING
COMPT. INTEREST
LITERARY INTEREST
CLERICAL INTEREST
WORD SENSE
RANGE OF INFORMATION
TONAL MOVEMENT
MUSICALITY
MUSICAL TASTE
FIGURE & GROUND
SPATIAL RELATIONS
SPEED OF ADD
SCHOOL ADJ. MORALE
LATIN & GK ROOTS
PREFIXES
REASONING
VOCAB IN ISOLATION
VOCABULARY IN CONTEXT
MECHANICAL INTEREST
TONE INTENSITY
AUDING ABILITY
VERBAL ANALOGIES
VISUAL VERBAL MEANING
STUDY PLANNING & DELIBERATION
75%
65%
68%
58%
60%
64%
36%
28%
27%
25%
62%
43%

FIG 2 POWER OF READING CONCENTRIC FLOWCHART FOR TOTAL SAMPLE OF 400 HIGH SCHOOL STUDENTS. CONCENTRIC RINGS FROM TARGET CENTER REPRESENT HIERARCHICAL ORGANIZATION OF SUB-STRATA FACTORS AT LEVELS I, II, III IN THE WORKING SYSTEM FOR POWER OF READING. THE DISCS GIVE PER CENT OF VARIANCE ACCOUNTED FOR IN EACH SUBSTRATA FACTOR'S LINE OF SUPPORT. (HOLMES 1961)

wrought by the process of comparing and contrasting the incoming information with relevant information already stored from past experiences—this is power of reading.

It is important to understand that the input channel predominant in sensory perception need not coincide with the modality used in imagination and thinking. In fact, it would seem that the highest reasoning tends toward not the conjuring up of visual, auditory, or kinesthetic images, but of abstract conceptualizations mediated either as (a) subarticulated verbalizations, or (b) vague generalizations unattached to words or coded representations of concrete details.

Substrata factors, then, are psychoeducational subsets of information stored in neurological subsystems of cell-assemblies. Such substrata factors stand ready to be *mobilized* into a *working-system* in accordance with the purposes of the reader. When connected into such a working-system, each substrata factor exerts an influence on all other information centers. Hence, the more efficient and the greater the number of associations among the substrata factors, the higher the *interfacilitation* of the total working-system. The explanation of how speeded reading is accomplished rests, therefore, not in the persistent practice of reading easy material, but in persistent pressure forcing the individual to increase the number of the interfacilitating associations. This, in turn, results in a heightened activity of perception, integration, abstraction, and generalization.

Figure 1 presents a diagrammatic model of a working-system for power of reading. The large ball at the apex represents power of reading, the lines-of-support umbellating out from it represent psychoeducational associations between power of reading and the substrata factors at Level I.

Holding to the same logic, the Theory hypothesizes that underlying each of the subabilities discovered at Level I, we may expect to find even more fundamental ones at Level II. Below such secondary abilities, we might further expect to find a set of tertiary elements.

This being the Theory, the task of the experiment was to find whether such a model could, in fact, be statistically constructed; and, if so, what abilities would be found making up such substrata levels.

The Experiment

In the experiment, 400 students were given some 56 separate tests, including such diverse elements as primary mental abilities, linguistic abilities, auditory and visual perceptual abilities, study methods skills and attitudes, and such interest factors as are recorded by the Kuder interest inventory. A host of psycho-sociological problem areas were also assessed with respect to their ability to explain individual differences in the criteria, Speed and Power of Reading. These variables were analyzed by the Substrata-Factor Analysis. Time does not allow us to go into the statistical details or methodology. Suffice it to say that when this was done, a very interesting set of abilities were indicated as substrata factors underlying Power of Reading.

Figure 2 presents the results diagrammatically, and it will be seen that, under Power of Reading, we were able to account for 75 per cent of the variance distributed among the seven following variables: Vocabulary in Context, 16%; Mechanical Interest, 1%; Study Planning and Deliberation, 1%; Visual Verbal Meaning, 6%; Verbal Analogies, 16%; Auding Ability, 16%; Tone Intensity, 3%; and Vocabulary in Isolation, 16%, at Level I.

It is strikingly apparent that Power of Reading is greatly dependent upon a knowledge of words and the concepts that they symbolize. Notice that Vocabulary in Isolation, Vocabulary in Context, and Visual Verbal Meaning are all different phases of the vocabulary domain. Verbal Analogies itself is reasoning through the manipulation of verbal concepts. Auding ability has to do with listening comprehension of human speech. So it is definite that at the first level the most essential element of Power of Reading is a knowledge of the meaning of words and the ability to manipulate the concepts behind these auditorily and visually perceived verbal symbols on the printed page.

As shown by Fig. 2, at the second level underlying the various forms of vocabulary are a host of other factors such as *Range of Information,* Computational, Literary, and Clerical Interest, Word

Sense, Reasoning, Prefixes, Latin and Greek Roots, School Adjustment, Speed of Addition, Spatial Relations, Figure and Ground, Musical Taste, Musicality, and Tonal Movement.

As shown also by Fig. 2, at the third level Pitch, Phonetic Association, Homonyms, Age, and Mechanical Aptitude all combine to account for 38% of Range of Information (at Level II). Now this, I think, is an interesting result, because of all the elements, Range of Information is the most ubiquitous. Like Reasoning, it underlies the basic verbal elements that enter into Power of Reading at Level I. For instance, it accounts for over half, 52%, of Vocabulary in Isolation, 43% of Vocabulary in Context, 36% of Auding Ability, 38% of Verbal Analogies, and 16% of Visual Verbal Meaning. And yet, we are able to account for only about 38% of Range of Information itself by the more fundamental factors in our matrix. This would lead us to believe that the information represented by this particular substrata factor is information of a specific sort and goes way beyond the mechanics of the language itself. And, if I might say so, this gives us definite proof that those who have criticized our basal readers of the last thirty years have some justification. That is to say, that there has been very little real information given to the student in most of our primary readers up to the present time.

Implications

Most of the basal readers have been a Dick and Jane, a Bob and Barbara type of chit-chat, centered on exercises which will increase vocabulary. But that vocabulary has been of a very low order and tied to the everyday concepts the child has already learned around the house. What I am saying is that these concepts, for the most part, do not give the child a chance to stretch his mind. He knows nothing more in terms of information, of new knowledge, after having read through a set of primary and elementary textbooks in *reading* than he did before he started, expect that he now knows how to read a certain high-frequency list of words with some fluency. This in itself is good, but the fact that he does not get those basic concepts, or ideas, or information which will help him expand his mind when he begins to read in order to learn is a valid criticism of this type of reader.

Perhaps here we can stress the difference between learning to read and reading to learn. I think that we are prolonging the initial period of learning to read beyond the time that it is proper. Learning to read must also, sooner or later, begin to take on the concepts of reading to learn, because later reading depends upon prior learning, and that prior learning is not only a matter of the right pronunciation or visual identification of words, but also (and more important) the mental manipulation of abstractions and an increased store of pertinent information.

If we were to return, as many people are now suggesting, to the McGuffey type of reader, we would *not* be much better off. There is so much in the McGuffey Readers that would be untenable to most moderns. For instance, a class system is definitely proposed. There is the Horatio Alger type of story told over and over again, which is really not applicable today. While we admire the fortitude of the person in the story, teachers know better than to suggest that hard work on the job is a substitute for education. We know very well that times have changed and that many of the concepts held forth in the McGuffey Readers are no longer practical or tenable. Furthermore, while its code of ethics is unassailable, the manner of its presentation is effusively sentimental.

A hope for the future, in answer to this dilemma, is to introduce into our programs reading textbooks that have not only a graded list of words, but a graded list of *concepts*. And these concepts must become deeper, more difficult and more complex than we have previously thought possible for children to learn. I maintain, I think with some justification, that children are more capable than educators would have us believe. For as they begin to understand more, as the reading material becomes more meaningful, their interest and power of reading will increase.

One bright spot in the developmental reading in the modern curriculum is the introduction of science, modern geography, history, and social studies into the elementary school classrooms. We must have, I think, more of these subjects in our *reading* textbooks; that is, we need the technical words that will carry over into the so-called solid disciplines, keyed to the major concepts that the child must know in order to read in these fields. And the reading teacher is in a strategic position to help the child expand and consolidate those substrata elements involved in power of reading, of which the most important is Range of Information.

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12. Further Experimentation with Progressive Choice Techniques for Organizing Reading Material

RICHARD H. BLOOMER

Materials for teaching may be organized in many ways. Progressive Choice is but one of these. It is designed to reduce to a minimum the amount of teaching and the time spent in learning, to produce maximum returns for each unit learned, and to teach the learner rapid independence.

Criterion for Progressive Choice Material

To accomplish these ends, certain requirements must be met by the material to be organized into Progressive Choice.

1. Under no condition is a learner able to apprehend at a single sitting the totality of a complex area such as reading, so material to be taught must be divisible into learning units of a size that the learner can learn them in a single teaching session.

2. For initial reading the words taught must be understood as a prior part of the learner's speaking vocabulary.

3. The learning units selected must be readily combinable into larger, more complex units.

4. The units selected for teaching must be constant, that is, not vary from one teaching situation to another, except within minor degrees.

5. The unit size must be selected such that the smallest number of units combines into the largest amount of material.

These rules for selection of material for organization by Progressive Choice apply not only to initial reading material, but to arithmetic materials and conceptual areas like history, science, or vocabulary.

The Experimental Reading Program

The English language presents several complications to take into account in designing Progressive Choice materials for beginning readers. First, English does not customarily generate new concepts by chaining words together, as is the case in Latin or German. Therefore, single words are not generally units which can be combined into complex words. This is characteristic of most English or Anglo-Saxon derivation but not of the less frequent compound words of Latin or Greek derivation. Since the most frequent, short, easy words are Anglo-Saxon words, they are not acceptable units for the basic learning unit of Progressive Choice reading materials.

The Invariate Simple Cycle

We thus have the option of letters and their sounds as the unit of teaching. The complex phonetic structure of the English language causes a problem solved by developing the program using only phonetically consistent English words, that is, words employing only a single sound or close variation for each letter shape. Each of the twenty-four consistent sound-shape combinations is a teaching unit of the invariate simple cycle.

The invariate simple cycle is built such that the progressive addition of each single sound increases the number of meaningful combinations with sounds previously learned to maximize the number of meaningful words the child can read.

Theoretically, if one letter sound and shape is taught which is meaningful, the pupil has learned a single word. A second letter would make possible six words of a maximum of three letters each, and the addition of a third letter would make eighteen possible words. But not all possible combinations in English are meaningful.

In the Progressive Choice experimental reading materials, the child who has been taught the two letters A and T, and how to put them together, knows three possible words. With the third letter, S, the child can read five words, with the fourth letter, M, twelve words. The child must know the meaning of these words prior to learning to read them. He can thus read the words independently without assistance from the teacher. The invariate cycle continues until the twenty-four letters and sounds have been learned and the child is able to read independently over 500 words of four letters in length or less.

The Invariate Complex Cycle

The first cycle, however, does not solve the total reading problem. Several phonetically consistent letter sounds are complexes, such as long A in *cake,* TH, and SH. These sounds and the other consistent sounds constitute the second Progressive Choice cycle, the invariate complex cycle, which progresses in the same way as the invariate simple cycle, and upon completing it the child is able to read independently a great portion of the English words he knows the meaning of. At the end of the invariate complex cycle, the child has been taught forty sound and letter combinations, and the number of word combinations he can read independently is several thousand, limited only by his vocabulary and by approximately 15 per cent of the words in the English language which are not phonetically consistent. The average first grader covers the first twenty-four units and is able to combine the elements into words in approximately eighty hours of classroom time.

A third learning cycle is added to teach the 15 per cent of English words not fitting into the first two cycles. This is the variant cycle and includes words like *bough, rough,* and other familiar words commonly used to criticize or suggest that English cannot be taught phonetically. These words, of course, must be learned as sight words. However, the number of sight words to be memorized is drastically reduced.

Experimental Evidence

Classroom Experiments

Of these cycles only the invariate simple cycle has been tested experimentally. The results produced were consistently favorable in the experimental studies, which involved 178 experimental class pupils in seven first grades. Mean achievement at the end of grade one as measured by the Gates Reading Test for pupils using the Progressive Choice materials was 2.88, as compared with the Scott, Foresman materials, where pupils achieved 2.43, and with Row Peterson materials, where the pupils achieved 2.18. The Economy Phonics Series pupils achieved 2.42. Progressive Choice was significantly superior to each of the other three series. These experiments were conducted in the regular classroom situation.

Clinic Experiments

A second comparison was made using the invariate simple cycle of Progressive Choice with students in a remedial reading clinic. Here the time factor was very sharply controlled, as the clinicians had equal amounts of time with their students. Again, Progressive Choice pupils showed significantly greater gain. In twelve one-hour sessions, pupils taught by conventional control methods gained 1.8 months, while pupils taught by the Progressive Choice technique gained 6.3 months. This difference is significant beyond the .01 level of confidence and again shows that Progressive Choice in a tightly time-controlled situation produced superior results.

Mentally Retarded

Progressive Choice appears to work well for mentally retarded students. A study by Ruth Ann Davy at the University of Maryland indicated that mentally retarded pupils classified as trainable but not educable were able to learn and retain some reading through the use of Progressive Choice organization of material. Retention was tested both before and after the summer vacation, and the pupils retained approximately 90 per cent of the material learned the previous year.

Reading Comprehension Materials Organization

The above studies deal with Progressive

Choice organization of reading materials to teach beginning reading. Work on the invariant complex cycle and the variant cycle is currently in process.

A major purpose of reading is to teach children to learn concepts and facts from written material. The basic Progressive Choice position is that small concepts can be built into more complex units if the individual is instructed as to how to develop the more complex components. Hence, Progressive Choice offers an effective way of manipulating conceptual material. Several self-teaching programs have been developed using Progressive Choice techniques. The learner reads the material, then reads questions about the material to which he writes answers. He is independent of the requirements for a teacher while learning.

Basic Electricity

A program to teach basic electricity was developed by Myron Woolman of the Institute of Educational Research. This program was based on training lectures given in a Bell Telephone System basic electricity course. Normally, conceptual teaching of basic electricity is limited to individuals with 115-120 I.Q. The experimental group for testing this program had I.Q.'s as low as 90. Students using the Progressive Choice material were significantly better than students in lectures which presented the same material, for both factual and conceptual tests of basic electricity. Further, the students taking the Progressive Choice material achieved better scores than instructors in the lecture courses, who had not received the Progressive Choice materials.

Traffic Safety and Driver Attitude

Materials to teach traffic safety are currently being organized by the Progressive Choice technique at the Driver Behavior Research Project at George Washington University. This reading program will teach driving safety facts and concepts of good driving practices, and will direct the driver to be more socially responsible on the road. Preliminary tests showed this material to be significantly superior in teaching both facts and concepts to lectures containing the same material or presented by means of written text. Further experimentation is presently under way.

Vocabulary

The Progressive Choice technique is currently being used to develop a vocabulary teaching material for combining prefixes, suffixes, and root words, and techniques for determining a shift in meaning of language from literal to current usage meaning. This material is ready for experimental testing.

Progressive Choice has proved a versatile and efficient technique for the organization of material to be learned. It is effective both for teaching basic skills and for the organization of conceptual material. In every instance where Progressive Choice techniques have been compared with standard techniques of presentation, the material organized by Progressive Choice techniques has proved superior. The data suggest that use of Progressive Choice Organization may resolve some conflicts within the field of reading and produce more effective reading teaching in the classroom.

13. An Evaluation of Three Methods of Teaching Sixth Grade Reading

WALLACE RAMSEY

Providing for individual differences in reading ability continues to be a major problem in elementary education. It becomes intensified in intermediate grades because the variation in reading ability becomes even greater than it is in lower grades.

Many plans of organization, or methods of instruction, have been devised to solve the problem. Such plans range from individualized teaching to homogeneous grouping of the entire school population.

A perusal of the professional literature is likely to convince one that the three major plans being tried in this country are: (1) in-class ability grouping, (2) cross-class (or cross-grade) grouping—popularly known as the *Joplin Plan*, and (3) individualized reading.

During the school year 1960-61 seven

sixth-grade teachers in the Lee's Summit, Missouri, Schools, under the leadership of their assistant superintendent, Dr. W. J. Underwood, participated in an experiment to gather evidence concerning the relative merits of the three plans listed above.

The Iowa Tests of Basic Skills were administered as part of the school system's regular testing program in September, 1960, at the start of the experiment, and again in September, 1961. The test results were used by teachers as one criterion for grouping the children in the five classrooms which did not use individualized reading. The reading gains registered on the tests were used as indications of growth in reading ability of all of the children in the experiment.

The 223 children in the experiment had received similar reading instruction in the first five years of school — instruction utilizing basic readers and workbooks. Teachers had used in-class ability grouping to care for individual differences. Thirty-nine of the children in the ability grouped classes had had their basal reader instruction supplemented in grades 1-3 with all the lessons in phonics presented in *Phonetic Keys to Reading*, published by The Economy Company. All had had access to ample classroom libraries and had been encouraged to do lots of reading. While there was a variation in socio-economic level in each class, the majority of the children were from upper-middle-class homes.

The number of children in the three groups, and the mean intelligence quotient of each group (as determined by the administration of the long form of the California Test of Mental Maturity) were as follows:

	No.	I.Q.
Individualized	70	114.0
In-class grouped	103	115.5
Cross-class grouped	50	114.1

In no case was the difference in average I.Q. of the three groups found to be statistically significant at the five per cent level.

Description of the Programs

In the two classrooms where individualized instruction was given there were three types of reading activity. For the first six weeks of the year training in reading skills was given by utilizing the *Reading for Meaning* series published by the Lippincott Company. Thereafter, children engaged in two types of reading activity during the reading period:

(1) free reading in books selected by the children.

(2) individual reading and completion of skill building exercises in appropriate selections of the SRA Reading Laboratory.

Each teacher made special efforts to encourage (but not coerce) out-of-class reading. School principals made every attempt to see that the teachers had a large supply of books and that these were changed as often as needed.

In the three classrooms utilizing *in-class grouping* instruction, reading was given in a conventional manner. Basic readers and their accompanying workbooks were used. Results from the Iowa Tests and teacher judgment were used to group children into two or three reading levels for instruction. Children were shifted from one group to another as their performance suggested the need for a change. Trade books and other basal texts were available for supplementary reading and children were encouraged to read during their spare time.

Children enrolled in two sixth grade classrooms in one school had reading as part of a language arts period, for which they were grouped into a relatively homogeneous group. Each of the teachers had children from the other sixth grade room for language arts and sent some of her own children to the other teacher for such instruction. For reading instruction each teacher subdivided her large group into two smaller groups, each containing children of similar reading ability. Each teacher used basic readers and workbooks to give reading instruction in a somewhat conventional manner. They encouraged outside reading in much the same manner as teachers of the in-class grouped children.

Teacher Reports

Each teacher involved in the experiment completed a questionnaire designed to reveal important facts about her training, experience in teaching reading, and the instructional techniques used. All had taught at least five years, five had taught in two or more grades.

Each had taken one or more courses in the teaching of reading and most revealed a thorough knowledge of techniques to use in teaching reading.

Each of the teachers reported many excellent practices designed to encourage in-school and out-of-school leisure time reading.

A Comparison of Results

A comparison of the mean reading ability of all three groups revealed the following gains (expressed in grade levels):

	Gain in Vocabulary	Gain in Reading
1. Individualized	.98	1.03
2. Ability Grouped	1.06	.98
3. Cross-class Grouped	1.30	1.14

When the differences in test results were tested for significance, using Sheppard's t test, the only significant difference found was between gains in total reading of groups *two* and *three*. This difference was significant at the .05 level but not at the .01 level. All other differences were found to be too small to be statistically significant.

In addition to growth in reading ability, other important results of any plan of teaching reading are the effects on children's attitudes toward their reading and effects on their out-of-school reading habits. A questionnaire designed to determine these and other similar results was completed by each student involved in the study.

The individualized and ability grouped classes reported significantly more books read during the year than did the cross-class grouped children (medians were 27, 29, and 19, respectively). Reading was listed as a favorite school subject twice as often by the ability grouped classes as by the other two, but by only seven per cent of the children in the former group.

The individualized classes reported visiting the public library on an average of once per week. This was twice as often as reported by either of the other two groups. However, the ability grouped and cross-class grouped children mentioned reading as a favorite leisure-time activity more than twice as often as did those who were in the individualized program.

An attempt to measure the attitudes of the children and their parents towards the methods being used showed that ninety per cent of the children in each of the three programs believed their parents approved of the way they were being taught to read.

Every one of the children in the individualized program expressed approval of it. Eighty-two per cent of those in the ability grouped classes expressed a liking for the way they were being taught. On the same item seventy-five per cent of the cross-class grouped children responded favorably.

Conclusion

The fact that neither of the three programs emerged as clearly superior to the others may have many plausible explanations. The one that seems the most reasonable to this writer is that the teachers who participated in the experiment were all of high ability. There was no attempt to get a highly objective measure of their relative abilities. However, their superior rated them as about equal in enthusiasm, knowledge, and teaching ability. They had in common a deep understanding of children and a wide knowledge of how they learn. All had a fondness for helping children to learn to read; each was open minded enough to try her method without prejudging it.

The thing that the study probably illustrates most clearly is that the influence of the teacher is greater than that of a particular method, a certain variety of materials, or a specific plan of organization. Given the good teacher other factors in teaching reading tend to pale to insignificance.

14. Three Approaches to Teaching Reading

ROACH VAN ALLEN

The heightened interest of the American public in reading instruction in our schools has brought forth many proposals for "sure cures" for all the ills of the past and present. Some proponents of the "cure-alls" say they have quick and easy remedies; others veil their proposals in a sort of mysticism which is not unlike the rituals of witch doctors and medicine men for the cure of physical ills. At the same time, there are many thoughtful educators and dedicated professional societies that are devoted to the continued study of reading instruction. An example of how interested educators combined their resources to improve reading instruction is in the San Diego County Reading Study Project. This project is popularly known as "Three Approaches to Teaching Reading."

So many teachers and administrators in the San Diego area were interested in knowing a variety of well-balanced, basic approaches to teaching reading that the curriculum staff of the Department of Education, San Diego County, was asked to develop a research framework which would involve hundreds of children in a program which used more than one way of teaching reading. The five-year study which has grown out of the research project has probed into method, materials, and the learning process. Its basic point of view has been that no single approach to the teaching of reading can be *the best* and *only* solution. Its research framework attempted to include reading problems related to the diversity of our school population and our increased information concerning human growth and development.

As the research team investigated many so-called "approaches to teaching reading," it selected three for detailed study. The *basic reading* approach, the *individualized*, and the *language-experience* approach. Others were considered, but were rejected because they did not meet the criteria for a valid approach. They did not encompass a "way of thinking" which included stated purposes, materials, classroom organization, wide-range skill development, plan for direct teaching, extended enrichment program, provision for individual differences, and evaluation of skills and attitudes. In all cases except the three selected approaches, there were serious gaps in the proposed approaches which eliminated them from the study.

The three approaches were tested in many classrooms—not to compare one against another—but to give a team of observers an opportunity to observe the use of each approach over a period of time when all other approaches were ruled out. It was during the period of observation, careful reporting, and systematic analysis of data that the research team confirmed the hypothesis: *There are numerous effective ways of teaching reading in our schools.*

The research design of the San Diego County Reading Study Project required that participating teachers be rated high by district administrators, that they have tenure in their districts, and that they have a success record in teaching reading. In addition to having better than average teachers, the design assured an intensive in-service education program, the necessary materials for instruction, and administrative support for the three approaches. Success as measured by reading achievement scores was built into the design so that other factors could be observed and studied.

Of the three approaches used, two are well described in the professional literature on reading instruction. Either the basic reading approach or the individualized reading approach had been used by most teachers in the study. However, the language-experience approach had not been described well enough before this study to give teachers guidelines for using it as the major instructional design. Prior to this study, most of the teachers using elements of the language-experience approach did so as supplementary activities. During the course of the study, however, the language-experience teachers ruled out all other approaches for a period of time. Children in their classrooms made as much or more progress in reading skill development (as measured by standardized tests) as did the children who had direct teaching of skills in the classes using the *basic* and *individualized* reading approaches. It is these results that give us our clues for asking questions about some of our prevalent practices and our predominant materials. It will be in the answering of some of these questions in thousands of classrooms across the country that we will continue to move forward with a reading program for today's children.

Results from the formal part of the San Diego County Reading Study Project raise these soul-searching questions about reading instruction:

1. Is the use of a predetermined controlled vocabulary as significant an element in reading instruction as we once thought? Is there enough control in the real language of the individual to guide early word recognition without systematic control from outside sources?
2. Are the choppy, unnatural sentences of present-day preprimers and primers easier to read than more natural sentences might be? Could it be that the concept difficulty is enough greater in unnatural sentences than in sentences of real language that vocabulary control is outweighed as a factor in making reading simple and easy?
3. Are children's reactions to reading as important as their word-calling skills? Can an over-emphasis on reading as a skill apart from listening, speaking, and writing develop negative attitudes?
4. Does a highly structured, predetermined sequence of reading materials and activities produce an attitude of language and thought conformity? Is it just as important to develop in children a feeling that their own ideas are worthy of expression and that their own language is a vehicle of communication?
5. Do all important reading resources exist outside of the child and in books, or should we develop the idea that a child's own thoughts may be used as a basis for the development of instructional reading materials?
6. Does the level of social interaction between teacher and pupils have as much to do with achievement as the method used? If a child really understands what he is doing, is there a greater possibility of development?
7. Does a child profit more from reading something he has selected than from reading pre-selected materials at all instructional periods?
8. Can we afford any longer to evaluate reading programs on the basis of achievement scores of standardized reading tests? What about attitudes toward reading? personality development? self-expression abilities of pupils who are expected to be thinking, contributing citizens in a democratic society?

These and many other questions are confronting teachers and administrators who are willing to take a serious, penetrating look at reading instruction. As they answer these questions they become more and more aware of the need to look at reading as a means of arousing meaningful responses on the basis of individual experiences of the learner. They realize that some of the concepts which have been developed concerning such important areas of instruction as basic sight vocabulary, phonics instruction, reading materials, motivation for reading, classroom organization, and evaluation of pupil progress must be updated and expanded.

(These topics are discussed more fully in a series of five reading monographs, "Improving Reading Instruction," published by the Department of Education, San Diego County, California, and Monograph No. 27 in the Contributions to Reading Series of Ginn and Company, "The Language-Experience Approach to Teaching Reading.")

As we continue to study reading instruction in its space-age setting, we recognize anew that we are dealing with the human resources of our society—resources which are so precious and essential to survival that we cannot risk the possibility of *intellectual servitude* any more than we can risk the possibility of *physical servitude* as a result of not doing our best. This means that reading instruction must result in more than pronunciation of words, the reciting of phonetic or grammar rules, the verbatim parroting or rote memorization of passages, and the completion of pencil and paper activities which are selected and administered by the teacher. Reading instruction must result in more than blind following of the printed page. Reading from its beginning in the kindergarten must be an integral part of a meaningful, useful language experience. At all times it must remain in its natural relationship to the other communication skills of listening, speaking, and writing.

A danger to society far greater than the fact that all children read the same book is the danger of uniform response to ideas. Uniform, blind thinking of American youth is the dream leaders of authoritarian societies and movements envision. The contrasting dream of men and women who cherish a free society is that reading instruction will serve to develop thinking individuals

- who are critical of sources, definitions, and assumptions
- who are prepared to select from the many sources available those which serve the situation best
- who choose a wide variety of reading materials for information and for leisure time activities
- who view reading as a means of communicating ideas, ideals, aspirations, and flights of fancy
- who contribute to the storehouse of reading materials by recording their own thinking on topics of deep concern and personal pleasure

The future of reading instructional programs will not depend on what is said here, but rather upon the changing role of reading in enriching the lives of children, in facilitating learning, in promoting good citizenship, and in strengthening each child's concept of himself as a contributor of ideas to an emerging and growing society.

15. A Comparison of the Effectiveness of Workbook and Non-workbook Types of Follow-up Materials

ROBERT L. DOCTER

Widely divergent viewpoints exist concerning the value of reading workbooks in the instructional process of the elementary classroom. To determine what objective evidence could be obtained regarding the advantages or disadvantages of workbooks, a study was undertaken following a grant from the Los Angeles Board of Education. This research attempted to measure the relative effectiveness of workbook and non-workbook methods of follow-up activity through an analysis of empirical evidence gathered in a controlled learning experiment; opinions of professional personnel; and an extensive evaluation of the materials.

In using the term *workbook,* reference is made to the commercially published, consumable workbook designed to accompany a specific basal reader. In using the term *non-workbook* materials, reference is made to the materials designed and prepared by individual teachers for individual reading groups as well as to various mimeographed publications prepared for teachers by separate elementary school districts within the school system. The non-workbook method was considered to be the *status quo* of reading in Los Angeles.

The term *follow-up*, when used to describe a portion of a lesson or type of materials, was defined as a reading activity designed to reinforce previous teaching and to afford practice for a pupil on a specific reading skill.

The stated problem of this research was readily divisible into three separate sections. For purposes of easy reference, these sections might be labeled: (1) the learning experiment; (2) the opinion study; and (3) the evaluation of the materials.

The Learning Experiment

In order to determine the relative gain in reading skill by workbook and non-workbook classes, eighteen schools were randomly selected from the total population of Los Angeles elementary schools. Each school furnished two classes of comparable grade level and ability, giving us 36 classrooms representing all six elementary grades. One of the classes in each school became an experimental group. This class used workbook materials throughout the entire school year. The other class became a control group. This class used non-workbook materials throughout the year.

With experimental and control groups assigned to the same school, it was possible to assume that each classroom had similar socio-economic background, similar school organization, similar access to supervision and other facilities. The two teachers assigned to these classes were selected by the administrator of the school on the basis of similar classroom management techniques, similar motivation for teaching, and comparable skill and experience. The selection of the specific teacher to be assigned the experimental method was left to chance.

Instruction proceeded in both the experimental and control group classrooms in accordance with established developmental method practices in the Los Angeles area. The only exception involved the use of the workbook in the experimental situations. Approximately 50 workbook titles to accompany basal readers from five different publishing companies were purchased. Each teacher divided his class into three separate reading groups, based on the reading achievement scores from standardized tests, as well as subjective appraisal. The teacher then assigned a basal reader to each group which corresponded with the specific instructional reading level involved. Growth in reading during the one-year experimental period was measured through use of the Stanford Reading Achievement Tests. Form "J" was administered in the fall as the pretest instrument, and Form "K" was administered in the spring as the criterion measure. The mental age of each pupil, derived from group intelligence measures, was also recorded as an additional antecedent variable.

Each classroom group was left intact and analysis of covariance was used to test the hypothesis that both experimental and control groups were random samples of the same population. This device is similar to that suggested by Walker and Lev (1953) and Gaffrey (1956). Each grade level was treated as a separate experiment. A "gain" approach, also suggested by Gaffrey (1959), was utilized in the statistical design. In this instance, where one of the antecedent variables is a pre-test measure and the criterion variable is a post-test measure, the difference between the two measures becomes a record of the *gain*. This gain then becomes a new criterion variable, and the mental age of each pupil became the only antecedent variable. Thus the statistical computation was somewhat simplified.

Mean gains during the school year of the experimental and control groups in raw score comprehension and vocabulary points were computed. Gains in the first grade favored the control (non-workbook) group. With use of the mental age as the antecedent variable, the significance of this difference was tested through analysis of covariance. An analysis of the first grade F ratios showed that the difference in gains between the experimental and control groups was highly significant beyond the .01 level of confidence in both comprehension and vocabulary scores.

In the second, third, and fourth grade, however, it was noted that the differences in gain favored the experimental (workbook) group. The second grade F ratios showed that the comprehension gain of the workbook group was significantly greater than that of the non-workbook group beyond the .05 level, and that the vocabulary difference favored the workbook group beyond the .01 level. An identical situation was noted with regard to the third-grade scores. There were significant differences in comprehension gains and highly significant differences in vocabulary gains, both favoring the experimental group. The fourth grade experimental group also registered greater gains during the year than did the control group. According to the findings, this difference was significant in regard to comprehension but not significant in terms of vocabulary. No significant differences were apparent between workbook and non-workbook groups at the fifth or sixth grade levels.

Opinions of Professional Personnel

A broader phase of the study involved the assessment of opinion concerning the effectiveness of the workbook materials by teachers and administrators participating in the study. Over 1200 teachers from 80 randomly selected schools participated in this phase of the study. A questionnaire was distributed to the participants immediately following the semester in which workbooks were used as an integral part of their classroom reading program.

Results demonstrated that both teachers and administrators favored a workbook type follow-up material over a non-workbook type. In looking at sub-sections of the questionnaire an analysis of the time factor in preparing for a reading lesson showed that less teacher time was required in preparing a lesson utilizing workbook type follow-up materials than the non-workbook type. Teachers felt that workbooks did not impinge on their class instruction time in regard to explaining the mechanics of the assignment or in slowing down the tempo of the lesson. They also felt that the workbook type follow-up material was more easily checked.

On the whole, teachers believed that the workbooks were challenging to children reading above grade level, but slightly frustrating to children who were below average achievers.

An analysis of the returns of the teacher questionnaire classified by grade level showed that first grade teachers held opinions significantly different from teachers of the other grades on certain questions. This difference existed in items involving the ease or difficulty with which pupils performed the lessons; the lack of challenge of the workbook to first grade pupils reading above grade level; the frustration presented to first grade pupils reading below grade level; the difficulty which first grade children evidenced in using the workbook independently; and the greater number of complementary lessons constructed by first grade teachers in order to supplement the workbook.

Without doubt, however, the majority of administrators and teachers at all grades favored the use of workbook type follow-up materials over the non-workbook type.

Evaluation of the Materials

A city-wide committee of approximately sixty Los Angeles teachers and administrators under the general chairmanship of the Coordinator of Elementary Curriculum, Mrs. LaVon H. Whitehouse, designed criteria for the purpose of evaluating the workbook and non-workbook materials.

Evaluation score cards showing the weightings assigned each criterion at each grade level were distributed to teachers who had used the workbook materials during the experimental year.

In each instance the workbooks received universally high ratings from the teachers who had used them in class instruction. The highest ratings were assigned the second, third, and fourth grade titles.

Randomly selected teachers who were not participating in the workbook study were asked to collect all of the non-workbook materials which they prepared for one reading group during one semester of the experiment. This material, completely free from any identifying mark, was then evaluated by special grade-level sub-committees of the city-wide committee.

The first and second grade non-workbook material received a mean rating of 454 out of a possible 1000 points. The same jury evaluated the first and second grade workbook materials and assigned them a mean rating of 870 points. The third and fourth grade non-workbook materials received a mean rating of 647 points, and the fifth and sixth grade workbooks were given a mean rating of 928 points.

Conclusions

A pattern of evidence from the analysis of the comparative gains of the experimental and control groups, from the opinions of teachers, and from the evaluation of the two types of materials suggests that workbook usage has a peak of efficiency in grades two, three and four. It can also be concluded that non-workbook materials proved to be superior for the purpose of initiating the reading program during the first grade. Neither the workbook nor the non-workbook materials demonstrated a clear superiority at grades five and six. The majority of teachers of all grades favored the use of reading workbooks in the basal reading programs under their direction, but this majority was smaller at the first grade than at other grades. Reading workbooks received consistently high ratings when evaluated by specific criteria. The readiness and preprimer workbooks of the first grade, however, were rated somewhat lower than those of other grades.

16. The Influence of Indefinite Terms of Time and Space on Comprehension of Social Studies Materials

VAL E. ARNSDORF

Reading social studies materials is one of the many activities children engage in to acquire further understandings of the social studies concepts and generalizations. The extent to which a child's understanding is enriched as a result of reading is obviously dependent upon multiple factors. Among the more important of these factors are the child's interests, mental capacity, experiences, and command of the language. Each factor is significant independently and merits the attention of the teacher in the instructional program. However, the interrelationships among these factors with the resultant influence on the learner's understanding also need to be considered in planning for the teaching-learning environment.

Closely related to each of the previously mentioned factors is the development of an adequate vocabulary. While the acquisition of vocabulary is only one part in the process of understanding what is read in the social studies, most will agree it is a fundamental step toward improving reading in the social studies program. Further indication of the importance of vocabulary is presented in research reports of the relationships between vocabulary and achievement in content subjects. Even though these relationships have been reported and do merit attention, the magnitude of the correlation coefficients provides evidence that vocabulary development alone will not assure the student success in the social studies. Other variables must be provided for to promote the learner's growth in this area.

The nature of the meaning attached to printed symbols encountered in the social studies will therefore be subject to considerable variation as these factors influence the students. Each individual must select from his own repertory meanings which are appropriate in terms of the context in which ideas are being presented, the purposes established for reading, the child's abilities, and his previous experiences with the terms and subject matter.

For purposes of discussion and instruction, vocabulary taught in the social studies may be classified into three categories: (1) technical or specific terms— included here are the terms unique to the social studies—the names, places, and events essential to this area; (2) relatively common terms that take on specialized meaning in this context—examples such as mouth, bay, sound, divide, bank, and current are readily found in basal and supplemental materials; and (3) indefinite terms and expressions—attention is given here to those terms with no clearly defined meanings including high, many, years ago, low, large, adequate, and others.

To expect children to comprehend the materials presented without a clear understanding of the vocabulary used is a rather dangerous assumption. Accurate interpretation of social studies content is dependent upon the child's ability to select the *one* correct meaning appropriate for that context. In many cases, the context which should provide helpful clues to the reader is not clear. Teacher and pupil attention is generally centered on the presentation and teaching of technical and relatively common terms with specific meanings.

The extent and nature of time and space terms found in basal social studies materials have been indicated in a previous study. Results from the investigation show that the numbers of terms per readability sample (approx. 100 words) range from samples that do not contain either time or space words to a high of twenty-six per sample. Low correlation coefficients (40 of the 50 reported are .30 or less) indicate the limited relationship between the number of time and space terms and the difficulty of the selection as determined by the readability estimates. Classifying these terms into two categories, definite and indefinite, disclosed that nearly 80 per cent of the time terms and over 90 per cent of the space terms found could be considered indefinite.

In an attempt to determine whether these (indefinite) terms affect children's understanding of social studies materials, two selections from basal textbooks were presented to four classes from each of the intermediate grades. Each of the selections was randomly distributed in two forms to the students: form "A" as it appeared in the basal textbook, and form "B" in an "adjusted" or rewritten form with the indefinite expressions replaced with a more specific and concrete vocabulary. Open-end questions were used to determine the pupil's understanding of vocabulary and content. Fifteen classrooms in three schools totaling 412 children were included in the study. Of this number, responses from 320 pupils in twelve classrooms were collected in written form and the remaining 92 tape recorded. Average vocabulary and comprehension scores from the Gates Reading Survey for each grade group were approximately one grade level higher than the national norms reported in the test manual. In no case did a class average on the two tests fall below the reported norms.

It is recognized that scores on reading vocabulary and comprehension tests do not provide a firm basis for predicting success in the social studies. However, they do provide some insight into the reading capabilities of the children involved and their potential for meeting social studies materials.

The procedures used initially in the study included the random distribution of materials to a class with the children writing their answers. *No* time limits were set for either reading the selection or answering the questions. Papers collected were analyzed for correct and incorrect replies. Data analysis included tests of mean differences between form, sex, and grade with reading comprehension and vocabulary scores controlled. In each of the comparisons tested, the differences between the mean scores were *not* significant except differences between grade level performances.

At this point of the study, children's understanding of social studies materials did *not* appear to be affected by the use of indefinite or definite terminology. However, and perhaps more important, while the analysis did not clearly answer questions concerning children's ability to comprehend the social studies content, it did indicate the limitations in their understanding.

Procedures used to collect data for the study were altered at this stage to overcome some of the limitations that might be attributed to the use of written responses. One additional classroom from the fourth, the fifth, and the sixth grades was selected, with the children interviewed individually and tape recorded. The recordings were analyzed and results tabulated to supplement the information gathered through the written responses collected earlier.

Similar results were noted. Differences between the responses of the "A" and "B" groups and between boys and girls were not significant. Whether the children read the materials as presented in the basal textbook or the materials rewritten to reduce the number of indefinite time and space expressions seemed to have little effect on their performances. Again, differences were significant between grade levels and these differences appeared to be greater between grades five and six than between grades four and five. Although in an item by item examination of the results, the variability found within each class was greater than the variability found between the grades.

Both procedures used in administering the exercises yielded similar results in the comparisons studied. However, the additional information made available through the tape recordings was of equal or greater interest. The recordings made it possible to investigate more thoroughly the nature and depth of the children's understandings than was possible in the written responses. Children were given the opportunity and encouraged to discuss, explain, elaborate and clarify concepts and expressions during the course of the interview.

The average number of correct responses, while slightly larger, remained basically unchanged from the written performances. The number of errors and misconceptions noted increased. The children seemed willing to express themselves even though some were skeptical of the accuracy of their comments.

The children's knowledge, indicated by both recordings and written responses of the words, expressions and concepts found in the social studies was cursory. While sixth graders responded more accurately and extensively than fifth, and fifth graders more than fourth, at each level acquaintance rather than comprehension would better describe the student's understanding of social studies concepts. Typical definitions included: climate—"how hot or cold it is"; altitude—"how high something is, like a mountain"; latitude—"they're lines on a map"; and rainfall—"like when it's raining outside." Attempts to encourage the child to expand his definition usually resulted in a repetition or rephrasing of his initial remarks and infrequently a contribution of new ideas or additional information.

That children encounter difficulties in understanding social studies materials is a familiar statement to most teachers. The role of vocabulary development in this problem area has been pointed out in earlier studies by McCracken, Millis, Werner, and Kaplan, and in the research summarized by Serra. This study, along with others, indicates that vocabulary is but one of the factors influencing children's understanding of social studies concepts. Presenting the children with basal materials with a more specific and concrete vocabulary seemed to have little, if any, effect upon their comprehension.

The above conclusion and others that may be drawn need to be interpreted in terms of the limitations of the investigation, the procedures, instruments and sample studied. Considering these limitations, the following statements seem warranted:

1. Reduction or elimination of indefinite time and space terms alone does not increase children's understanding of social studies concepts.

2. Capable readers, as identified by standardized vocabulary and comprehension tests, have difficulty in comprehending social studies concepts.

3. Intermediate grade children's understanding of social studies concepts increases from grade to grade; however, the variability within each grade is greater than the differences between grades.

4. Shallowness rather than depth is characteristic of the responses given by children at each level.

5. Children's understanding of social studies concepts may be seriously impaired unless concerted action is taken to teach children how to read social studies materials.

In closing, a note of appreciation is needed to thank the International Reading Association for the Alva Knight Research Award for the financial support and the Ginn and Macmillan publishing companies for granting permisison to reproduce selections from their social studies series.

17. Concrete Thinking as a Factor in Reading Comprehension

JAMES JAN-TAUSCH

Educators have long been concerned and perplexed by the children of normal or superior intelligence who do not seem to be able to profit from instruction in the field of reading. Much has been written about the diagnosis of reading difficulty, and much has been done to improve the tools used to measure the factors involved in the reading process. Materials for use in the reading process have become more and more plentiful and methods of instruction have come under close scrutiny by the lay public as well as by the professional educators. Despite the advances made in the past half century there still remain ten to twenty-five per cent of the school population who have varying degrees of reading disabi[illegible] The diagnostician has frequently fo[illegible]ter gathering evidence of a child's vision, hearing, intelligence, experiential background, emotional stability, and ego development, that he has not arrived at a satisfactory answer to his problem. The missing factor (or factors) is still being sought.

That the missing factor is constitutional in nature and may be found in the neural development of the child or the brain damage of the child, is more than a mere possibility. Delacato reported his findings in this area to this very conference in 1960 that such lack of development or damage exists and produces an effect which limits the child to concrete behavior, has been demonstrated by Goldstein and Scheerer and others in studies started as far back as the 1930's. To be able to prove that behavior limitation of a concrete nature is an important factor in

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[1] Guy L. Bond and Miles A. Tinker. *Reading Difficulties.* New York: Appleton-Century-Crofts, Inc., 1957, p. 7.

reading retardation could possibly contribute to the discovery of an important elusive missing factor in reading retardation diagnosis.

The reading act requires facility in comprehending symbols. To comprehend symbols the child must acquire methods of abstracting meaning through the use of experience, context clues, thought phrasing, recognition of semantic variations, and story organization. "The mind is assailed by every word in a paragraph. It must select, repress, soften, emphasize, correlate and organize, all under the right mental set."[2] Growth in reading then depends upon the child's ability to build thought units from sight words, to analyze the structure of words, to see relationship and common properties in words, phrases, and sentences.

Finally, reading may be thought of as a complex response to symbol-stimuli. It is made by the total organism and involves many mental processes. The interests, values, and attitudes of the organism may determine the particular response to any specific reading situation.

The study I report to you is concerned with the influence of a particular attitude, *concrete thinking,* upon the reading response.

I. **The Problem.** The purpose of the study was to determine the relationship, if any, existing between reading comprehension and concrete thinking as measured by standardized reading achievement tests and by selected parts of the Goldstein-Scheerer battery of abstract and concrete thinking tests.

Abstract attitude or behavior is interpreted in this study in the terms of Goldstein and Scheerer as conscious activity in the sense of reasoning, awareness, and self-accounting of one's doing: the transcending of the immediately given situation, the specific aspect or sense impression; the deriving of common from particular properties; the orientation of action by a rather conceptual viewpoint, be it a category, a class, or a general meaning under which the particular object falls; the detaching of one's self from the given impression, and the individual thing representing an accidental sample or representative of a category.

There are various degrees of abstract behavior corresponding to the degrees of ideational complexity which the performance in question involves. For instance, the highest degree of abstract behavior is required for the conscious and volitional act of forming generalized and hierarchic concepts or of thinking in terms of a principle and its subordinate cases and to verbalize these acts. Another instance of similar abstract behavior is the act of consciously and volitionally planning or initiating insightful behavior without a distinct awareness or self-accounting of every phase of its further course. As a special instance of the latter degree, the understanding of symbols or metaphoric thinking and intelligent behavior in everyday life may be considered. Here it is mostly the directional act which is abstract and the ensuing performance runs off on a concrete plane—until difficulties arise. Then the required shift again calls into play the abstract, anticipatory deliberation, and so on.

A gradation applies just as well to concrete behavior. The most concrete way of dealing with situations or things, is to react to one aspect of them exclusively; i.e., reacting to one global impression or to one color alone, to a particular form of an object, to one property of it, as, for example, its practical usage. A less concrete approach is indicated when the person is unreflectively embracing in his scope the total, palpable configuration of an object or situation, and is not determined in his response by any one impressive peculiarity of it. An unreflective variation of perspective toward the situation is less concrete than a rigid fixation to one aspect of it.

It would seem, therefore, that a child's learning progress in reading, provided he has the necessary intellectual capacity, follows closely his freedom from the limitations of concrete thinking.

Specifically, there should be an increase in the reading comprehension achievement of the child as the ability of the child to think abstractly increases, and a retardation in reading comprehension as the child is limited to more concrete levels of thinking. There should be a positive statistical relationship between performance on the Goldstein-Scheerer tests of abstract and concrete thinking and the reading comprehension results as measured by a standardized reading comprehension test. It is also assumed that the child cannot behave in reading in a more mature manner than his level of capacity to think. It is further assumed that reading comprehension is essentially a thinking process which requires ability to manipulate verbal symbols.

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[2] Edward L. Thorndike, "Reading as Reasoning: A Study of Mistakes in Paragraph Thinking," *Journal of Educational Psychology,* 8:329, June, 1917.

One hundred seventy children were chosen for the study, all of whom were pupils of the public schools of Springfield, New Jersey. The intelligence quotients of the children ranged from 79 to 133. Two-thirds of the group had I.Q.'s ranging between 90 and 115 as measured by the California Short Form Test of Mental Maturity.

There were 32 children from the fourth grade, 40 from the fifth grade, 46 from the sixth grade, and 52 from the seventh grade. At each grade level half the number were boys and of each sex half were advanced readers and half were retarded readers as measured by the California Reading Tests Form CC of the Elementary series for the children in grades 4, 5, and 6, and Form AA of the Intermediate series for the children in grade 7.

Each child was administered the Color Form Sorting Test and the first six designs of the Cube Test in strict adherence to the instructions given in the respective manuals. These tests are designed (a) to detect impairment of abstract behavior and assess degree and extent to which different performance fields have thereby suffered, and (b) to provide diagnostic criteria of pathological concreteness. The tests are performance tests in which the use of language is not essential, though verbal responses are not excluded. The tests present tasks where proper solution requires an abstract approach manifested in the performance and failure or errors reveal abnormal concretization.

The resultant data was assembled and separate studies were made according to sex, age, and intelligence, in addition to a grade level and total group study of the concept attitude and reading achievement results.

The evaluative procedure recommended by the authors of the tests was examined for criteria by which levels of success or failure on each item could be recorded.

Data were compiled in the form of "yes" or "no" on each test by each pupil. These and other pertinent data were analyzed according to *chi*-square formulas for statistical significance.

Conclusions

1. An over-all comparison of performance showed that a significant difference in abstract and concrete behavior was found to exist at the one per cent level of confidence between the advanced and the retarded readers when concept attitude was measured by the Color Form Sorting Test and the first design of the Cube Test.

2. Advanced readers with but few exceptions are also abstract thinkers. The exceptions may be due to validity error in the Goldstein-Scheerer tests, in faulty administration or scoring of the tests or the exceptions may be erroneous categorizing of the advanced reader. The exception may also be due to factors unknown.

3. Retarded readers are retarded because of limitation to concrete thinking but the data tends to bear out many previous studies that indicated as causes of reading retardation such other factors as vision,[3] hearing,[4] poor ego development,[5] and poor instruction.[6]

4. Girls tend to behave more abstractly than boys. This may be a clue to why boys have a higher incidence of disability in all phases of language than do girls.

5. The significance of the relationship between concept attitude and reading achievement tends to become greater in the higher grades. This suggests the possibility that reading comprehension at higher levels takes on more abstract qualities.

6. Although intelligence testing almost always includes tests of concept attitude, it is possible to have similar intelligence

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[3] C. A. Selzer. "Lateral Dominance and Visual Fusion," *Harvard Monographs in Education, No. 12*, Cambridge, Harvard University Press, 1933.

[4] G. L. Bond. *The Auditory and Speech Characteristics of Poor Readers*, New York, Bureau of Publications, Teachers College, Columbia University, 1935.

[5] L. K. Barber. *Immature Ego Development as a Factor in Retarded Ability to Read*, Unpublished Ph.D. Thesis, University of Michigan, Ann Arbor, 1952.

[6] L. Cole. *The Improvement of Reading*. New York: Farrar and Rinehart, Inc., 1938.

quotients and dissimilar reading achievement when age and grade are held constant. As intelligence scores are usually the average or sum of several factor scores, it is possible that similar I.Q.'s may in one case include an abstract attitude and in another case the abstract attitude would be missing.

7. The results of this study rejects the null hypothesis that there is not a significant difference in ability to behave abstractly between advanced and retarded readers.

18. Improving Reading in Junior High School

WILLIAM E. PAULO

The task of describing ways in which reading instruction may be improved in junior high school presented us with a real challenge in our preparation for the Annual Conference of the I.R.A. Because of the great diversity among junior high schools in terms of their philosophies, teacher talents, materials available and student needs; we decided to identify the primary considerations which should be taken into account when one organizes a new reading program or evaluates an existing program.

We began our search for such primary considerations in junior high school by identifying two groups of students. One group, which we called "able readers," consisted of ten boys and girls who indicated an I.Q. of 90-110 as measured by group tests and who were achieving at or above grade level expectancy in reading. This group formed our control sample. We then identified a second group of students, seventh and eighth graders, who tested within the same I.Q. range, 90-110, but who were two years or more retarded in reading achievement as measured by standardized tests. We called this second group, our experimental sample, "disabled readers." It was our hypothesis that if we could identify any characteristics, traits or patterns which were unique to either group, we would then have a premise regarding what should or should not be included as the primary considerations of an effective reading program. We further felt that the simple design of this action research would lend itself to duplication by virtually any classroom teacher who wished to repeat the process with his own students.

Our first task, then, was to study the school records of our ten disabled readers in an attempt to identify some characteristics unique to this group. In addition to meeting the aforementioned criteria, each of the children selected had attended the same school district beginning with grade one: thus, complete school records were available for each child.

In surveying the records of the ten disabled readers, the following incidences were noted:

Incidence	Students Out of Ten
Slight hearing loss	one
Myopic (wore glasses)	two
Mixed hand-eye dominance	one
Poor health record	one
Broken home	two

The high incidence of physical and emotional problems associated with the disabled reader group suggested a positive correlation between these findings and their problems. Our task appeared to be one of investigating the relationship of the individual child's physico-emotional problem and its effect upon his reading disability. Before pursuing this premise we surveyed the records of the ten able readers in a like manner. The following incidences were noted for the able readers:

Incidence	Students Out of Ten
Slight hearing loss	none
Wore glasses	three
Mixed hand-eye dominance	one
Poor health record	two
Broken home	one
Bi-lingual home	one

It became immediately obvious that histories of some physical and emotional problems could not be considered unique to either of our reading groups—our task was not as clear-cut as we had earlier assumed.

We did find, however, that the disabled readers differed from the able in that each disabled student had experienced a pattern of failure in reading from the first grade on. This failure pattern was evidenced by low grades in reading, teacher comments, and several retentions or trial promotions.

What effect had this failure pattern had upon the attitudes of the disabled readers toward themselves in relationship to school and reading? To answer this question we realized that we would have to devise a technique which would elicit their innermost feelings. We then discussed our project and our problem with Dr. Verne Faust, psychologist of the San Diego County Department of Education, who is noted for his work in the self-perceptions of learners. Dr. Faust encouraged us to use some form of projective techniques as a means of eliciting student feelings. We surveyed several projective techniques, including the Rorschach and Thematic Apperception Techniques; none of which appeared to satisfy our need to focus student responses on school and reading.

Under Dr. Faust's guidance we developed a projective technique which would better serve our specific purpose: Pictures depicting four school scenes were taken with a Polaroid camera. They were designed to involve the students in such a manner as to evoke their feelings about school and reading. The first picture shows a boy standing in a classroom looking at an open book held in his hands with several other students seated at their desks around him. A teacher stands facing him about ten feet away. None of the people in the picture display any unusual emotion. All of the students are of junior high school age.

The following interview with one disabled student illustrates his reactions to the first picture:

Dr. Faust: "What is the teacher thinking and feeling there, John?"
John: "Huh, I dunno, looks like she's kinda happy about it."
Dr. Faust: "How does the boy feel about it? Just use your imagination."
John: "He is unhappy. He probably doesn't like to read or something like that."
Dr. Faust: "Doesn't like to? Why do you suppose he doesn't like to?"
John: "He feels he can't read."
Dr. Faust: "Just using your imagination, why do you feel he thinks he can't read?"
John: "He has probably missed a couple of words and the kids have laughed at him and stuff like that. He feels kinda small."
Dr. Faust: "Is this a boy, just looking at him, who doesn't give up very easily, or does he feel like giving up lots of times?"
John: "He looks like he has given up lots of times. Sometimes if he is given little stuff, easy stuff, he'd like it. If he could understand it. . . ."

All the other disabled readers gave similar responses. By contrast, the able readers all saw positive relationships in the picture and interpreted the same scene with these responses:

> "This boy is reading aloud in his social studies class. . . . The other children are interested and ready to ask him some good questions. . . . He feels good and looks happy. . . ."

We used three more indeterminate pictures: one shows the back of a boy's head as he enters a door marked "Principal"; a second picture shows a male adult standing beside a boy seated at a school desk with a book open before him; the third picture shows a boy entering a home with his report card in his hand. Just as in the first picture, all disabled readers interpreted each situation in negative terms.

> "He's sneaking in the back door with his report card. . . . He wants his mother to sign it before his dad sees it. . . . His dad will probably wreck him royal."

With the exception of the picture showing the boy entering a principal's office, the able readers continued to see each of these situations in positive terms:

> "He feels he had done his best in school. . . . He has a 'B' in math and science. . . ."

Interestingly enough, the principal's office seemed to arouse anxieties in all of the children interviewed, able and disabled readers alike.

We had suspected that the consistent failure pattern associated with the disabled readers had had a marked effect upon their attitude toward reading. The responses made by both groups during our interviews appeared further to support our hypothesis.

The following conclusions were established on the basis of our survey of the students' records and their interviews:

1. The failure pattern unique to the disabled reader group had been a long-term one, originating for each child at first-grade level.

2. This pattern of failure had had a markedly negative effect upon the attitudes of the disabled readers toward school and reading.
3. By the time he had reached junior high school age, the disabled reader's negative attitude toward reading was firmly fixed as an integral part of his total personality.

Recommendation

It is, therefore, our recommendation that all reading programs make provisions for fostering in children a positive, healthy attitude toward themselves and toward reading. The role of attitudes which children embrace is the intangible ingredient heretofore grossly ignored in evaluating and organizing effective reading programs. Positive attitudes can only be built upon a series of successful school experiences. A reading program which denies the existence of a wide range of differences in ability, achievement, and interests among children within the same classroom is destined to mediocrity. In providing for these differences we must assume that the teacher will have a limited number of students per day, that there will be a wide range of reading materials available and that the program will be organized around the reading needs of the children.

19. A New Approach to Judging the Validity of Reading Comprehension Tests: Summary of an Investigation

RALPH C. PRESTON

Twenty-four years ago Imus and his associates at Dartmouth reported that Opthalm-O-Graph comprehension scores of college students were almost as high when the comprehension test on a given passage was taken before the passage was read as after it was read.[1] Since then I have occasionally given tests of reading comprehension to graduate students, requiring them to answer questions about selected passages before they read the passage and again after the reading. Like Imus, I found that many students achieved considerably better than chance and some achieved only slightly improved scores after reading the passage.

Last fall I investigated this tendency systematically. The first thirty comprehension questions of the *Cooperative English Test: Test C2: Reading Comprehension (Higher Level)*, Form R, isolated from their reading passages, were administered to 128 college freshmen. Each item of this test is in multiple choice form with five alternatives each. Chance alone would enable a student to obtain a score of 6 on the test. Following the administration of the passageless test, the students took the same form of the same test in its entirety and in the conventional way. The results were analyzed in terms of the aforementioned hypotheses.

The majority of students (77 per cent) achieved scores greater than 6, or better than chance. That is, since there are 5 options per item, the expected score over the 30-item test is 6. The significance of these scores was tested in two ways:

First, the observed mean was compared with the mean expected on the basis of chance. The observed mean is 8.34. This is significantly greater than the expected mean.

Second, a count was made of the number of scores which are significantly greater than chance. Given the expected proportion of correct items of .200, an observed proportion of .367 (or 11 correct items) is necessary in order to reject the hypothesis for a given individual at the .05 level that a real difference does not exist. Twenty-six of the scores meet or exceed this standard. The 128 probability figures, ranging from .00005 to .94 were combined by Fisher's method of combining probabilities. The combined probabilities yield a Critical Ratio of 10.71. Hence, although 102 of the probability figures are greater than .05, the varying performances considered in the aggregate are very considerably better than chance.

The following variables were found to be significantly related to ability to spot correct answers in the absence of the reading passages: reading comprehension as conventionally measured, speed of comprehension, and sex — i.e., men's scores were significantly greater than women's scores. The following variables were not significantly related: reading vocabulary, academic aptitude, and scholastic performance.

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[1] Henry A. Imus et al. *An Evaluation of Visual Factors in Reading.* Hanover, N. H.: Dartmouth College Publications, 1938, p. 66.

This study indicates that reading comprehension tests are even less valid than they have often been believed to be. Their validity has been called into question by many students of the reading process. For example, it has been pointed out that they fail to reflect current theories of learning and personality;[2] that they are not pure measures of comprehension because of the premium they place upon motivation and cognition;[3] and that some of them are measures of retention rather than of comprehension.[4] Even if reading comprehension tests were to conform to the concepts of comprehension held by their critics, they would continue to be invalid because of the fact brought out by this study, viz., that students are apparently able to recognize correct answers without reading the passages on which the questions are based.

20. Factors Associated with the Progress of Students Enrolled in a College Reading Program[1]

J. WESLEY SCHNEYER

The Problem

One of the chief difficulties in the organization of a reading program is the selection of students who are most likely to make improvement in their reading and study skills. Some students who enroll in a reading-improvement program seem to derive much greater benefit from the instruction than do other students. Very little information is available, however, to illuminate the reasons for this diversity in progress.

A reading instructor who is aware of the factors associated with the progress or lack of progress in a reading program may be able to help his students in at least two ways. First, he will be able to select those students who are most likely to improve their reading and study skills. Second, by knowing which factors are associated with a lack of progress, the instructor may be able to help those students who seem least likely to benefit from instruction. Some of the factors which impede progress may be amenable to change through instruction, guidance, or therapy. Some poor readers who are not yet ready to benefit from a reading improvement program, may be helped to solve their problems and thereby prepare themselves to improve their skills at a later time.

The purpose of this study was to investigate the factors which appear to influence the progress of students enrolled in a college reading program. The investigation was concerned with the question: Why do some students achieve greater progress in a college reading program than do other students?

The Subjects

The subjects of the investigation were students who were enrolled in the Reading and Study Skills Program at the Reading Clinic of the University of Pennsylvania during the 1958-59 academic year. Of the ninety-one students who enrolled during the year, seventy-one completed all aspects of the course, including the pre- and post-testing batteries. Twenty students either did not complete the course or did not take all of the tests in the final battery.

The seventy-one students who completed the entire course and all of the preliminary and final tests were the subjects for the major part of this investigation. The twenty students who did not complete the course or all of the tests were the subjects of the minor part of the investigation. The majority of the subjects were freshmen enrolled in the school of commerce or the school of liberal arts for men, the two schools with the largest enrollment in the University. The remaining students

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[2] Albert J. Kingston, Jr., "The Measurement of Reading Comprehension," *Research and Evaluation in College Reading,* Ninth Yearbook of the National Reading Conference. Fort Worth, Tex.: Texas Christian University Press, 1960, pp. 88-93.

[3] *Ibid.*

[4] Donald E. P. Smith, "Clay Idols in the Reading Business," *Starting and Improving College Reading Programs,* Eighth Yearbook of the National Reading Conference. Fort Worth, Tex.: Texas Christian University Press, April, 1959, pp. 164-170.

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[1] This report is based on the writer's doctoral dissertation, completed at the University of Pennsylvania in 1961.

were scattered through various classes from freshmen to graduate level, and through several schools of the University.

Procedures

Each student who enrolled in the course completed a battery of tests, a questionnaire, and a personal interview at the beginning of the course. At the end of the course seventy-one of the original ninety-one students returned to take alternate forms of certain tests. All of the students took one form of the Cooperative Reading Comprehension Test at the beginning of the course. Those who completed the program took an alternate form of this test at the end. The criterion for evaluating the progress of students in the course was the difference between the pretest and post-test total reading scores. The differences between the pre- and post-total reading scores were ranked from highest to lowest. Based on these ranked differences, three progress groups were formed; twenty-one High Improvers; twenty-nine Average Improvers; and twenty-one Low Improvers. The twenty students for whom final test data were not available were treated separately as the Attrition Group.

The mean differences for the several test scores were tested for significance by analysis of variance procedures. Differences on questionnaire items were tested by *chi*-square. Any difference at the .05 level of confidence was considered statistically significant.

Results

Scholastic Aptitude

The College Board Scholastic Aptitude Test scores were secured from the school office. Three scores were obtained for each student: a verbal aptitude score (SAT-V); a mathematical aptitude score (SAT-M); and a total score.

The mean SAT-V score for the High Improvers was significantly lower than that of any of the other groups. The group making the most progress in the course had the lowest mean SAT-V score, while the group making the least progress in the course had the highest mean SAT-V score.

The mean differences in SAT-M scores and total SAT scores were not significantly different for any of the progress groups. The High Improvers had the highest SAT-M and total SAT mean scores.

One other score based on the scholastic aptitude results was obtained for each student. This was the difference between the SAT-M score and the SAT-V scores. The mean SAT-M scores of the High Improvers exceeded their mean SAT-V scores by 82.81. This difference was only 5.40 for the Low Improvers. While these mean differences were not statistically significant, they did approach significance at the .05 level.

Reading Skills

The relationship between certain reading skills and progress in the course was evaluated through two reading tests. The first was the Diagnostic Reading Test (Survey Section), Part I. This part of the test provides scores in rate of reading and comprehension of story-type material. Form A of the test was given at the beginning of the course and Form B at the end of the course. There were no significant differences in mean scores for any of the progress groups.

The second reading test given to all of the students was the "Informal Reading and Study Test" developed for this study by the writer. The test is designed to evaluate the student's ability to preview a textbook chapter, to select the important points, and to summarize the esential ideas. None of the mean scores on any part of the test were significantly different for any of the progress groups.

Study Habits and Attitudes

Each student enrolled in the course took the Study-Habits Checklist and the Brown-Holtzman Survey of Study Habits and Attitudes (SSHA). A total score was obtained for the Study Habits Checklist. None of the differences among the mean scores for the three progress groups on the Study Habits Checklist were significantly different.

The authors of the SSHA provide only a total score for the entire inventory. However, for the purpose of this study the items of this inventory were classified into two groups; those items related to study methods were grouped together and called "mechanics of study"; those items related to attitudes toward study were grouped together and called "study attitudes." Separate scores for each group of items as well as a total score for the entire test were obtained for each student.

None of the mean scores on "study mechanics," "study attitudes," or total study habits and attitudes, were significantly different. The High Improvers, however, tended to have higher "study attitudes" scores than any of the other groups. This difference approached significance at the .05 level.

Ranking Troublesome Reading and Study Problems

A "Problem Checklist" consisting of a list of seven reading and study problems frequently reported as troublesome by college students, was given to each student. The students were asked to rank each item on the list in the order of its importance to the student. The list included such problems as concentration, poor reading speed and/or comprehension. The relative order in which the progress groups ranked each of the problems was tested by *chi*-square. The only item in which there was a significant difference was "trouble with concentration." A significantly greater number of High Improvers ranked this item as important (that is, ranked it either first or second on the list) than did students in any of the other groups.

Academic Achievement

Grade-point averages at the end of the year following enrollment in the course were obtained for each student. The mean grade for the High Improvers was higher than that of the Low Improvers. However, none of the differences in the mean grade-point averages for any of the progress groups were significantly different.

Personality Factors

Two instruments were used for the evaluation of personality factors. One was the SA-S Senior Scale developed by Smith and his associates at the University of Michigan. This is an inventory which provides measures of two areas: emotional stability and permeability or flexibility. There was a tendency (approaching the .05 level of significance) for the High Improvers to be more flexible than the Low Improvers.

The second instrument was the Inventory of Beliefs developed by Stern at Syracuse University which provides a measure of the tendency of individuals to be authoritarian or anti-authoritarian in their acceptance or rejection of certain stereotyped attitudes. The mean scores of the Low Improvers were in the direction of the authoritarian-acceptance of the stereotyped statements. None of the differences, however, were significant.

Personal, Social, and Educational Factors

Each student enrolled in the course completed a thirty-two item questionnaire to obtain certain personal, social, and educational information. The difference between the relative frequency of responses for each item by High Improvers and Low Improvers was tested by *chi* square.

There was a significant tendency for the High Improvers to read books of a more intellectual or theoretical nature; while the Low Improvers tended to read books of a popular or current type. The High Improvers also demonstrated a greater tendency to have made a definite vocational choice prior to entering college than did the Low Improvers. This difference approached significance at the .05 level.

Conclusions

At the present time, prediction of success in a college reading improvement course may be based upon certain tendencies. Some of these tendencies are significant, and others approach significance.

The significant tendencies are for those students who are High Improvers to be students with initially low verbal aptitude scores; to be students who make definite vocational choices prior to entrance to college; to be students who prefer to read books of a more intellectual nature; and to be students who are extremely concerned about problems of concentration during their study.

Those tendencies which approach significance are for those students who are High Improvers to be students whose mathematical aptitude scores exceed their verbal aptitude scores; to be students who are more flexible in personality; and to be students who are well motivated for study.

Discussion

Limitations of space prevent extensive discussion of the findings. One point, however, will be taken up. This point is related to the significantly lower mean verbal aptitude score obtained by the High Improvers. As a part of the present investigation, the SAT-V scores for all subjects were correlated with their Cooperative Reading Test scores. An *r* of .58 was obtained. Peixetto[2] reported a correlation of .70 between Cooperative Reading Test Scores and SAT-V scores for 1600 college freshmen. These correlations would seem to indicate that to some degree the two tests are measuring similar skills.

One implication is that the low verbal aptitude scores for some of the students may have been due to limited reading abilities. It might well be that some of the students whose low verbal scores were due to limited reading ability would be able to achieve higher verbal aptitude scores following a period of developmental reading instruction.

The writer regrets that this possibility was not indicated before the investigation was completed. He was, therefore, unable to readminister another form of the SAT-V test to determine if the gain in reading skills made by the High Improvers would result in substantial gains in the SAT-V scores as well.

The hypothesis that improvement in reading scores will result in improvement of SAT-V scores for students whose initially low SAT-V scores was due to limited reading ability will be tested in another investigation now in progress. It would certainly seem logical that a number of high school students who obtain low SAT-V scores on the College Board Examination and who also demonstrate poor performance in reading, may be able to increase their SAT-V performance following an intensive period of instruction in reading. If this turns out to be so, it will have a number of implications for providing special developmental reading instruction at the high school level.

21. The Columbia-Carnegie Study of Reading Research and Its Communication— An Interim Report

ALLEN BARTON and DAVID WILDER

The Columbia-Carnegie Study is not reading research in the usual sense of a study of how children learn to read, or a comparison of methods of reading instruction. Rather it is a study of the production, dissemination, and acceptance of scientific knowledge and theories concerning reading instruction. It is a study of the sociology of science and of communications within a profession.*

The study consists of three parts. One deals with the reading researcher — his training, career, institutional setting, the facilities and obstacles which he confronts in doing research, and his choice of topics and methods. This part will be reported by David Wilder, co-director of the project.

A second part of the study analyzes the content of communications about reading instruction. What ideas, facts and alleged facts have been disseminated in textbooks, teachers manuals, and other professional channels over the last fifty years? Have there been trends or cycles in what has been advocated? Has there been consensus or disagreement in the literature? Have certain areas been ignored, certain topics discussed ambiguously or vaguely? This part is only just under way and little can be reported on it as yet.

A third part deals with what has gotten through to the local school personnel— the principals and classroom teachers. What beliefs do they hold, and what practices do they claim to engage in? Is there consensus or disagreement? And what is the relation of beliefs to what has appeared over the years in the literature, including the research reports? Some of the findings of this part will be presented by Allen Barton as Section II of this report.

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[2] Helen E. Peixetto, "Relationship of College Board Scores and Reading Scores of College Freshmen," *Journal of Applied Psychology,* 30:406-11, August, 1946.

*The plan of the research is reported in Allen Barton's "The Sociology of Reading Research," Vol. 67, *Teachers College Record* (November, 1961), pp. 94-101.

The results of this research are still in process of analysis. What will be reported here are interim findings as they now appear.

I. Reading Research, The School of Education, and the Reading Researcher

DAVID E. WILDER

In discussing any science it is useful to distinguish: (1) the body of knowledge and problems that constitute the field; (2) the principal institutions that recruit, train, and sustain people in the field; and (3) the people in these institutions who solve problems and create knowledge. The field of reading research and the principal institutions related to it appear to be different in some ways from what is found in other sciences. These differences may provide a background against which the special problems of the reading researcher can be better understood.

The Research

It is characteristic of science that two or more researchers working independently of one another solve the same problem or make the same discovery. Such so-called multiple discoveries and priority disputes are with few exceptions unusual in the field of reading research. In fact, there is a peculiar antiquity to many of the problems with which the reading researcher is concerned. It is possible, of course, that some of these problems can never be solved. It is also possible that various sociological, economic, and other processes have been operating in a way that has hindered the growth of the field as a science.

The School of Education

The principal institution that recruits, trains, and sustains the reading researcher is the university department or school of education. The current widespread system of teacher education and graduate training in education is a product of the twentieth century. It is a system whose beginnings were allied with the growing pains of universal education and the optimistic enthusiasm of progressivism. It appeared that there would soon develop an educational system founded on scientific knowledge gained through empirical research. Indeed, it was the pursuit of such knowledge through experimental research that justified the existence of schools of education in the universities to some of the early leaders.

Although the colleges of education have trained an enormous number of teachers for the schools during the past fifty years, they have not distinguished themselves by the research they have done. Perhaps they could not have done both jobs. However, their continued existence as graduate schools in the universities has been marginal in most instances, and it is the contention of some that they have become progressively more isolated from the rest of the university than they were at their foundation.[1] Educational research in virtually every field of inquiry has been under fire in recent years from external and internal sources. National conferences and committees of experts have been meeting and continue to meet to discuss what's wrong with educational research and graduate training in education.[2]

Independent studies have revealed that many recipients of the doctorate in education are products of teacher colleges and schools of education which are consistently low in the production of scientists compared with other institutions of higher learning.[3] Both the absolute and relative number of doctorates in education have been increasing during the past fifty years; but on the basis of national test scores, the students in schools of education and recent recipients of the doctorate in education compare unfavorably on the average with their counterparts in other disciplines.[4] In short, the graduate schools of education have failed to live up to the training and recruitment norms of some of the other disciplines.

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[1] Lawrence A. Cremin, *The Transformation of the School*, New York: Alfred A. Knopf, 1961. See also Eugene Charles Auerbach, "The Opposition to Schools of Education by Professors of Liberal Arts" (unpublished doctoral thesis, University of Southern California, 1957).

[2] Paul F. Lazarsfeld and Sam D. Sieber, unpublished report, *Organizational Problems of Educational Research.*

[3] R. H. Knapp and H. B. Goodrich, *Origins of American Scientists*, Chicago: University of Chicago Press, 1952. R. H. Knapp and Joseph J. Greenbaum, *The Younger American Scholar: His Collegiate Origins*, Chicago: University of Chicago Press, 1953. J. L. Holland, "Undergraduate Origins of American Scientists." *Science*, pp. 126, 433 (1957). *The Baccalaureate Origins of Science Doctorates Awarded in the United States, 1936-1950*, Office of Scientific Personnel, National Academy of Sciences, National Research Council, Publication No. 382, Washington, D. C., 1955. *The Doctorate in Education*, The American Association of Colleges for Teacher Education, Washington, D. C., 1960.

There is also considerable evidence that the graduate school of education does not sustain the research scholar very well. Of approximately 40,000 national or university graduate fellowships very few are available or awarded to education students.[5] While virtually every university has post-doctoral research fellows in residence on a full-time basis in most fields, there are only a handful of reading researchers who might be so classified; and three years ago there were none to my knowledge. Thus there exist no role models of full-time reading researchers for the graduate student in training to identify with and to pattern his career after. The reward structure of the training institutions themselves is not research oriented; and the field generally does not reward the kinds of activities or confer the same kind of rewards as other sciences. There are, however, institutions outside of the university such as publishing houses and school systems that constantly offer large monetary rewards to the professor for non-research activities. Inside the university the "publish or perish" norm is honored, but the system does not impose adequate quality control standards on what is published as research. Under these circumstances it is somewhat surprising that any research gets done at all.

The Reading Researcher

During the past ten months I have had the pleasure of conducting rather lengthy interviews with about seventy-five prominent reading researchers. The interviews can be seen as an attempt to obtain two kinds of information. First, they inquire into the career history of the respondent. Second, the interview asks how the respondent feels about some research problems and some of the more salient and controversial issues in the field.

The interviews, questionnaires, and additional bibliographic materials should provide sufficient data for a sociological description and analysis of the profession of reading researcher. By systematically examining the variables, patterns of influence and similarities and differences within the occupational structure and between this occupation and others may be revealed. Generalizations about the conditions under which research productivity does or does not occur will also be sought.

Important characteristics of the diffusion process and of the broader setting within which the reading researcher and his research must eventually survive or perish can be revealed by the extent to which there is ignorance, distortion or utilization of research findings and the extent to which there is consensus with regard to various issues throughout this communication network. An attempt will be made to describe this network as it functions and to make generalizations about the conditions under which it is effective or ineffective.

II. Beliefs and Practices of Teachers in Elementary Reading

ALLEN BARTON

As part of the Columbia-Harvard study, about 4,500 questionnaires were mailed to a random sample of over 300 public elementary schools throughout the United States. Returns were received from about half the schools and about 30% of all sampled teachers. Our schools correspond closely to true population figures in most objective teacher and school characteristics, but of course the very fact of cooperation in a research study suggests somewhat higher quality and professional attitude.

Materials in Reading Instruction

Reading instruction in almost all schools starts from a similar basis: basic readers from a graded series are used by 90% of first grade teachers and by 92 to 84% of second and third grade teachers, on "all or most days in the year." In addition to this base however somewhat different kinds of

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[4] Lindsay R. Harmon, "High School Backgrounds of Science Doctorates," *Science*, pp. 133, 679. 1961. Dael Wolfle, *America's Resources of Specialized Talent*, New York: Harper & Bros., 1954.

[5] Bernard Berelson, *Graduate Education in the United States*, New York: McGraw-Hill Book Co., Inc., 1960.

Table Number 1

Per cent of teachers saying each kind of material is "very important" or "absolutely essential" for teaching reading at their grade level.

	GRADE 1	2-3	4-6
A basal reading series	95%	95%	88%
A classroom library of many varied children's books	88	91	90
High-interest material for retarded readers	79	86	88
A second, additional basic reading series	75	67	60
A separate school library with a large collection of books	64	71	80
Graded workbooks	60	63	54
Readers from still other basic reading series	60	49	36
Reading machines for training eye movements, film projectors, etc.	29	31	38

supplementary materials are used. About a third of the primary grades use "children's story books which are not part of a reading series" on all or most days. About a third use special books for slow readers on all or most days. A quarter of the first grades use experience charts based on the children's activities or interests on all or most days. Library work in school or public library is used on "many" days in 40% of the first grades, rising to 65% in sixth grade. Field trips are used more than just once or twice a year in 35% of first grades, falling to 23% of sixth grades. Films or filmstrips for reading instruction, television for reading instruction, reading machines for improving speed or training eye movements, and kits of graded individual exercises ("reading laboratory") are used on all or most days in less than 4% of the grades from 1 through 6. These devices are as rare as basic readers are universal.

Almost all classes have a classroom library, but only 10% of first grades and 30% of higher grades have 75 or more books in it.

The teachers' opinions place great emphasis on the desirability of three things: a basal reading series, a classroom library of many varied children's books, and high-interest reading material for retarded readers.

Practices in Reading Instruction

Has the whole word method driven out phonics?

Some sort of phonics is universal—and so is some sort of whole-word method. In the first grade, 90% of the classes "learn new words as wholes" on half or more of the days; and 82% of the classes "learn to sound out words from letters and letter-combinations" on half or more of the days. The frequency of a variety of word recognition practices are given in Table 2.

Teacher Opinions

What is the relation of teacher opinion to the main currents of expert opinion in the reading field?

One conflict of a generation ago was whether there was a fixed age for beginning reading instruction, or whether individual differences in development made different ages desirable. Almost all teachers now hold the latter viewpoint: 89% believe it desirable for some children to start actual reading instruction before age 6, and 87% believe that some children should not start actual reading instruction until age 7.

A general question on the type of phonetic training found one-fourth of first grade teachers and one-third of teachers from second grade on favoring "a systematic program to teach the rules for sounding letters and letter-combinations using special class periods and exercises." Almost all the rest favored "a program of teaching the sounds of letters and letter-combinations mainly as they appear in words in the children's reading, but arranged to cover all the major rules of sounding." Only 3% want to limit phonetics to "teaching the sounds of letters and letter-combinations to some children who need it, when occasions make it necessary," and no one favored "as little teaching of phonetics as possible."

On the question of when phonetic training should begin, it is possible to

Table Number 2

Per cent of teachers saying they use each practice on half or more of the days of the year.

	GRADE 1	GRADE 2-3	GRADE 4-6
Whole-word practices			
Learning new words as wholes from flashcards, blackboard, or readers	90%	83%	61%
Learning to use context or picture clues to guess new words	83	75	54
Using the outline shape of the word as a means of recognition	50	34	19
Noticing special features like tall letters or double letters as a means of word recognition	63	49	22
Phonetic practices			
Learning to sound out words from letters and letter-combinations	82	94	64
Noticing similar sounds in words and relating them to the letters	86	85	54
Systematic learning of rules for sounding letters and letter-combinations	37	64	43
Learning to divide words into syllables	9	56	73

make an interesting comparison between teacher opinions and those found in the educational literature. We were somewhat surprised to find how many first-grade teachers believed that "most children should start to be taught the sounds of letters and letter-combinations" without waiting for the acquisition of a sight vocabulary of 50 to 100 words learned as wholes:

11% "before they start learning actual words"
40% "at the same time as they learn their first words"
41% "after they have learned to recognize 50-100 words as wholes"
4% "after they have learned to recognize several hundred words as wholes"
0% "not at all during the primary grades"
4% were undecided or made no answer.

Furthermore, the advocacy of starting phonics without first developing a sight vocabulary was higher among the more recently trained teachers:

Table Number 3

Advocacy of "early phonics" by years of experience (Teachers in grades 1-3.)

25+ years (pre-1937)	10-24 years (1936-1951)	Under 10 years (1951-1960)
43%	57%	63%
(147)	(256)	(311)

We can compare this trend with that found in professional textbooks on reading instruction.

Table Number 4

Textbook opinions on when to begin phonics.

	Pre-1935	1936-1945	1946-1955	1956-1961
Some sight words first	63%	83%	78%	87%
Total	(8)	(6)	(9)	(15)

There does not seem to be any trend in the textbook literature which matches the trend among teachers; the books in all periods but the earliest are overwhelmingly in favor of developing an initial sight vocabulary (about half specifying 50 or more words, the rest vague things like "an adequate number"). Perhaps the teachers are responding to influences outside the regular teachers-college texts—phonics is "in the air."

Social Influence on Opinion

In an attempt to locate influences on teacher attitudes, we included a number of questions about various kinds of social and professional contacts. For certain of these contacts—the principal, and the teacher's colleagues—we know their actual opinions too from having their questionnaires.

The principal's opinion has considerably more influence on the teacher when there is frequent discussion of the problem of reading instruction. It also suggests that principals favoring early phonics are more influential on teachers than those favoring delayed phonics; perhaps the former is a more "positive" position. However it is clear that the teachers are not simply rubber stamps for the principals' opinions; given frequent discussion of the issue, it looks as though a principal can move about one-eighth of the teachers toward his position, whichever it is; the rest remain where they were.

It is worth noting that the principals split just about 50-50 on the issue, while the majority of teachers favor early phonics. The principals are just like the older teachers in their opinions—and indeed most of them belong to that age group. The principals are therefore not likely to be the source of the influence which is making the younger teachers favor earlier introduction of phonics. If we compare younger and older teachers under the varying conditions of principal contact and attitude, the age differences remain in all cases but one; principals who favor early phonics and have much contact with teachers apparently have influenced the older teachers to become like the younger ones.

A further sidelight on the problem of influence is that "opinion-leader" teachers (those who report that other teachers ask their opinions on problems of teaching reading at least once a week) are more likely to favor early phonics than are rank-and-file teachers. Other types of teachers who favor early phonics are: "harder" teachers, who would fail or transfer to a lower grade pupils who don't keep up in reading; teachers who follow the manual of the reading series closely; teachers who advocate "training the mind" as the goal of education; and teachers in the higher grades, 4 through 6.

Pupil Performance

We have said that this is a study of the flow of information and opinions about reading instruction, rather than a study of the effects of various practices on the pupils. We did, however, ask the teachers to report to us the class average reading level, and to indicate on what basis and when this reading average was obtained. We are still trying to refine this rather crude measure of pupil performance. One finding, however, stands out beyond any debate. This is the overwhelming importance of the parental socio-economic status on reading achievement; this one factor far outweighs any differences of methods or materials which we have examined.

In reporting class reading averages teachers say that the *class average* is a year or more below grade level in the majority of classrooms composed predominantly of lower-income children, from the 4th grade on; while only 5% of the upper-income classrooms are so retarded. Conversely, about two-thirds of the upper-income classrooms are a year or more above grade level *from the first grade on,* while only about 10% of the low-income classrooms are so advanced. The upper-income children maintain their year-above-grade level; the lower income children fall increasingly behind. By sixth grade there is a differential of two years or more between the majority of upper-income and the majority of lower-income children. This is the mark which a class society imposes on its children; only a strenuous "counter-class policy" could hope to redress the balance.

How do educational practices bear on achievement within this context of class differentiation? One of the practices which was most highly related to achievement—although whether it is a *cause* or a *consequence* of achievement cannot be demonstrated from the survey data—is that higher achieving classes may be allowed to use the library *because* they are high achieving.

Obviously those who appear to benefit most from this added facility are those who are already very high in achievement.

We are investigating a large number of practices in this way; it would be especially interesting to see if there are any which especially benefit the lower-class children.

22. Harvard-Carnegie Study—A Preliminary Report

MARY C. AUSTIN

Few parents or educators would disagree with Paul Woodring's emphatic statement that "Teaching children to read is the most important single responsibility of the schools because all further education depends on it. . . ."[1] Is it not logical, then, to ask, "Are today's schools accomplishing their self-appointed task?" Many value judgments of competency in the teaching of reading have been made, particularly within the past seven years. A general conclusion that some teaching is good, some is poor, but that most can and should be improved cannot be disputed.

Young Readers

One controversial aspect of the reading program encountered in the Harvard-Carnegie study was the question of *when formal reading instruction should be initiated.* In most schools, administrators, teachers, parents, and children anticipate that entrance into first grade will lead automatically to the introduction of formal reading for very nearly all children at approximately the same age. This plan is followed in most American schools, regardless of the intellectual, emotional, physical, and environmental differences which exist among typical first graders.

Knowing that some children do learn to read before entering school, parents and educators frequently debate the wisdom of this. The questions of concern, however, are not: *Can* children learn to read before the age of six?; nor even, At what age should formal reading instruction be initiated for the *average* child? Rather, among the questions still to be answered are: (1) *Should* American children start earlier? (2) Do children who learn early enjoy reading as much as those who begin later? (3) What is the value of early achievement in reading? (4) Are those who read prior to school entrance more advanced in reading skills development at ages 8, 10 and 12 when compared with their peers who began in first grade? (5) Will psychological and physical problems result from early reading experiences, as many people have suggested?

Obviously, those children who have learned to read prior to kindergarten or first grade entrance should receive the kind of instruction that is appropriate for their needs and accomplishments. Early provision for these young readers should be possible in any classroom situation, but unfortunately this is not always the practice. In schools where attempts are being made to provide worthwhile experiences for these youngsters, administrators and teachers ask: What kind of placement is best for those who learn to read before first grade? Should the child engage in independent reading within the self-contained classroom with occasional brief periods of help from the teacher who may have as many as 35 other children? Is it wise to let the child "visit" in a higher grade where he will receive instruction with older children reading at his level? Should the school adopt a non-graded primary unit as a means of meeting the wide range of differences in reading ability (and in other areas)? What curriculum changes will be required for those children who already are reading at the second grade level (or higher) by the time they enter first grade? These are but a few of the questions which faculties are seeking to answer as they work together on the problem of providing better experiences for young readers.

Approaches to Beginning Reading

A number of recent provocative publications have launched a barrage of attacks upon reading instruction in America, particularly upon the methods used to teach beginning reading. Even though the accumulated knowledge of reading specialists and the weight of research favors a *combination* of approaches during the initial stage, confusion exists regarding how instruction actually should be started. Today one of the burning issues on which there is some disagreement among authorities is the timing of the introduction of phonics: Should phonics be introduced prior to, concurrently, or following the teaching of a basic sight vocabulary?

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[1] Paul Woodring, "Education in America," *Saturday Review,* January 20, 1962, pp. 39-40.

An argument voiced by the majority who advocate initial emphasis on "whole-word recognition" before the introduction of sounding techniques is that the perceptual process in the mature reader involves words and phrases as units. Therefore, the child should acquire a sight word vocabulary as early as possible. To do so means that the same words must be seen many, many times in a great variety of contexts—hence the basis for vocabulary controlled stories in basal reading materials. Once the high frequency of exposure has assured a beginning sight vocabulary, phonic generalizations can be developed gradually along with other word recognition techniques such as structural analysis, configuration, and context clues.

The minority group of authorities who advocate the introduction of phonics before a sight recognition vocabulary is established argue that whole words do not necessarily constitute the *real* perceptual units for young children. Diack,[2] for example, claimed that children do not perceive word wholes, nor even whole letters, but do attend to special characteristics, or smaller features of letter forms.

Proponents of "phonics first" also argue that good reading of an alphabetic language can only be achieved by learning the sound values of the letters used to represent that language. According to this point of view beginning reading materials should be limited as far as possible to words that are phonetically regular, while whole-word recognition as such will be stressed later when the child has mastered certain phonic skills.

Until the results of large-scale, controlled, accurately reported studies are available to indicate clearly the most advantageous time to introduce phonic analysis, this question remains unanswered. In the meantime, 50 of the 51 elementary school systems visited by the staff are committed to an eclectic approach to beginning reading. Only one system used phonics as the exclusive method of instruction, while three of the cities visited relied heavily upon separate phonics programs in conjunction with one or more basal readers.

Throughout the Harvard-Carnegie study the interviewees posed numerous questions concerning the future role of phonics in the reading program. The following were typical: To what extent do children possess phonics aptitude? To what extent do children generalize their own phonic principles whether or not they receive systematic phonics instruction? To what extent is aptness for acquiring phonics skills related to personality traits? In addition to these were the practical questions concerning the amount and kind of phonics instruction needed for the development of good reading ability and ways of correlating it with other parts of the reading program.

Thursday's Children

Based upon their interviews and observations, the somewhat depressing consensus of the staff is that the teaching of reading in our schools is, at best, of mediocre quality. In far too many instances the teaching of reading is dubiously highlighted by improper application of basal reading materials, rigidity of methodology, lack of evidence to substantiate claims that critical reading skills are taught, and the failure to utilize materials adjusted to the needs of children.

We may well ask why the teaching of reading in our schools is mediocre. Preliminary findings of the Harvard-Carnegie study underscore several reasons, but the following are particularly significant: the absence in many schools of sufficiently helpful in-service education in reading methods and materials, the failure of too many administrators to assume the role of truly effective instructional leadership, the ambiguous role of the elementary supervisor, the massive influx of student population compounded by a high rate of teacher turnover, and the almost universal declaration by the teachers interviewed *that their collegiate preparation in the teaching of reading was inadequate.* With regard to the last, principals concur with teachers in the need for strengthening collegiate courses for the teaching of reading in the elementary school.

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[2] Hunter Diack, *Reading and the Psychology of Perception.* New York: Philosophical Library, Inc., 1959.

On the brighter side, our findings substantiate the presence of a trend that cannot help but lead in the right direction: educators are genuinely concerned about the extent of progress in reading and are renewing their efforts to improve their programs during the sixties. School people generally are displaying an encouraging willingness to re-examine reading practices that have been in existence for years. In a climate of open-mindedness they are studying classroom problems related to practically every issue that arises in promoting growth in reading. Many schools, in fact, are already discarding questionable teaching practices and initiating more promising ones.

You will recall the nursery rhyme that begins "Monday's child is fair of face, Tuesday's child is full of grace . . ." and on to Thursday's child who has "far to go." It seems to me that we who have chosen to devote our professional lives to the improvement of educational opportunities for boys and girls have been cast in the role of Thursday's children—for while we have made significant advances in the teaching of reading during the past quarter of a century, we still have far to go before attaining the quality we so fervently desire. It is my sincere belief that during the sixties, a two-pronged attack must be made which will result in the following: (1) upgrading the collegiate preparation of prospective teachers of reading, and (2) providing more effective in-service education programs for the entire staff.

When the findings and recommendations of *The Torch Lighters*[3] are combined with the report and recommendations of the current study by the Harvard-Carnegie staff, educators will have guidelines for strengthening both the pre-service and the in-service education of teachers. Hopefully, the resultant reading programs in our elementary schools will then be more dynamic, functional, consistent with sound philosophy and psychology, and, above all, will produce mature and literate readers.

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[3] Mary C. Austin, Coleman Morrison, et al, *The Torch Lighters: Tomorrow's Teachers of Reading*. Harvard University Press, 1961.

PART IV

Evaluation of Reading Instruction in American Schools

1. An Evaluation of Reading in American Schools

NILA BANTON SMITH

AS YOU have attended the various meetings in this convention you have really witnessed a pageant in American reading instruction, a pageant that has portrayed in a colorful but objective manner theory, practice, and research in our instructional program. It is my assignment to summarize, tie together and evaluate these portrayals.

It is difficult to know where to begin in evaluating a subject that has so many facets and ramifications as does reading instruction, but after some thought I decided that it might be logical to start with the two-year-old and work upward. So I shall first discuss the reading of young children, then on to trends in elementary, secondary, college and adult reading, respectively. Next, I shall talk about aspects of reading that cut across all levels: clinical activities, literature and automated teaching; and finally an attempt will be made to evaluate the criticisms that are being leveled against American reading instruction at the present time.

Reading by Pre-School Children

As you well know the reading of young children is one of the most popular topics of discussion at the moment. Even the author of the Pulitzer Prize winning novel *To Kill A Mocking Bird*, amusingly portrays the experiences of a pre-school reader. You will recall that Jem said of his four-and-a-half-year-old sister, ". . . Scout there's been readin' since she was born, and she ain't even been to school yet." Then upon entrance in first grade, Scout, whose real name was Jean Louise, was asked to read something that Miss Caroline wrote on the chalkboard and she read it so well that Miss Caroline was visibly vexed. Miss Caroline then had her read most of the first reader and stock market quotations in the *Mobile Register*. All of this time Miss Caroline's irritation was building up and she finally exploded, "Tell your father to stop teaching you. It will interfere with your learning to read in school." Jean Louise said that her father didn't teach her and then she began soliloquizing to herself on how she did learn to read and finally decided that it just came like learning to fasten the flap on the back of her union suit without looking around. Her troubles continued, however, as her school days went by. Miss Caroline became increasingly annoyed and frequently snapped out such sharp reprimands as "Stop it. You're not supposed to know that until next grade!"

This is an amusing account, but we really don't have to refer to a novel to learn about children reading before they go to school, nowadays. We're hearing about these pre-school readers on all sides at the moment and it is good that we had some discussion of this topic in our program. Dr. Austin, Dr. Durkin, and Dr. Morrison discussed this topic and delineated many of the problems with which we are confronted.

As I view the present situation, personally, it appears to me that our concerns fall within two major categories of young children: (1) those who seek reading and learn to read informally, and (2) those who are given systematic instruction at the initiative of an adult who wishes to hasten them along their educational way. Each of these categories requires separate evaluation.

I should like to give an example of the first category and use this example as a basis for evaluation. This example is concerned with Cathy, the young daughter of a friend of mine. When Cathy was three, I, together with other guests, frequently spent an evening in her home. As the guests arrived Cathy would gather up a half dozen books, seat herself under a lamp and sit there oblivious to conversation of the guests, literally devouring her books for long periods of time. I often wondered what she was thinking about as she was either appreciating, reliving minutes examining one picture. Evidently she was either appreciating, reliving vicariously the experience of the characters, or else she was interpreting picture detail.

When turning four, Cathy began asking what certain words were, and she would now sit by herself and read orally from books, largely from memory but recognizing a word here and there. When she was about four and a half she was in a ten-cent store with her mother one day. While the mother was busy shopping, Cathy amused herself at a counter covered with books. Suddenly she discovered a little booklet with pictures in it and a word under each picture. She ran to her mother begging her to buy this book. With the use of the book, Cathy taught herself to read all of the words under the pictures. When she entered the kindergarten at five last fall, she was reading fluently.

Wondering whether Cathy's skill was being recognized by the kindergarten teacher, I asked, "Does your teacher let you read at school?" "Oh, yes," replied Cathy. "I read every day to her and sometimes to the other children." Again curious to know if the kindergarten teacher was actually teaching reading to all of her pupils, I asked, "Does your teacher have all of the children read each day?" "Oh, no," answered Cathy. "Just me and another girl. But I read better'n she does." Cathy was not only progressing in reading but she had evolved an evaluative process which she used in appraising reading quality and applied it quite immodestly.

The points that I want to make with the use of this illustration are: (1) Cathy learned to read as a result of her own questions and requests which were answered and granted by a sympathetic mother. She didn't read because some adult decided to teach her to read and began flashing word cards for her to memorize or telling her that *b* said "buh" and *c* said "cuh." She practically taught herself to read whole words which were meaningful to her because they were pictured. (2) Cathy was not denied reading experience in kindergarten and told that she would have to wait until first grade. The kindergarten teacher nurtured Cathy's reading interest and ability, but she did not formally teach reading either to Cathy or to other kindergarten children who had not yet reached beginning reading maturity. It is hoped, however, that she provided many rich informal contacts with reading for all of her pupils in such ways as those mentioned by Dr. Durkin in her paper on "Reading Instruction and the Five-Year-Old Child."

We have evidence that most of these pre-school children who learn to read at home learn by informal methods as illustrated in the example of Cathy. Terman[1] found that over one per cent of his subjects learned to read before they were three years old, and that two and a half per cent read before they were five. Most of them received only incidental assistance, and some surprised their parents by suddenly reading to them when their parents were not aware that they could read. Durkin,[2] in her study of forty-nine children who read before school, found that at least one person in the family took the time and had the patience to answer the children's questions about words, and that in most cases the questions were constant.

So much for children who learn to read informally at home. In contrast to this situation we hear of current experiments in which a person is teaching youg children to read through an adult planned, systematic method. Examples of such experiments are: the Yale experiment in which Dr. Moore is teaching children from two to five to read with the use of an electric typewriter; the Denver, Colorado experiment in which parents are directed by TV in teaching their pre-school children with the use of a phonics book; the experiment of the Whitby School in Connecticut which has been using the Montessori method; and the experiment of the Social Psychology Laboratory at the University of Chicago in which it is hoped to teach four-year-old underprivileged children to read.

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[1] Lewis M. Terman, *Genetic Studies of Genius*, Stanford, California: Stanford University Press, Vol. I, 1925, pp. 271-272; Vol. II, 1926, pp. 247-255.

[2] Dolores Durkin, "Children Who Read Before Grade One," *The Reading Teacher*, 14 (January, 1961), pp. 163-166.

Such experiments await further longitudinal measurement before a valid evaluation can be made. It has been proved many times that an adult *can* teach a young child to read. The important question that many people are asking is: "Is this desirable?" Specialists in early childhood believe that these children are not sufficiently mature physically and emotionally to withstand systematic teaching. They inquire whether they may develop antagonistic attitudes toward reading and a distaste for reading. Reading specialists wonder if these children will be at any advantage over other children in later primary grades. Too, they inquire if these children become fluent readers far beyond the usual grade-age achievement, will they be able to understand the concepts in the more advanced reading which they can do.

In summary it might be said that young children who, themselves, show an interest in learning to read and request help in reading at an early age certainly should not be deprived of the assistance which they seek. Society needs the contributions of the gifted too much for these children to sit around and wait until the average or slow children are ready to read. More than this, probably most kindergarten teachers should be exposing their pupils to many more *informal* reading experiences than they are now doing.

On the other hand, the practice of having an adult engage in some systematized form of instruction with young children irrespective of their beginning reading maturity, is a practice which is questioned pretty generally by reading specialists and by those especially interested in the field of childhood education. Until the benefits and dangers are better known most of these people are not willing to place themselves among the backers of this movement. In the meantime, let's keep an open mind and wait and see.

Reading Trends in the Elementary Grades

The organization of children in a class for teaching reading is undergoing challenge and experiment.

At this convention we have heard about the individualized plan, in-class ability grouping and the cross-grade or Joplin grouping plan. In addition there is the ungraded plan and the multi-graded system. All of these plans are worthy of measured investigation and I hope that we shall continue to carry on experimentation with them.

To refer to one study: Mr. Ramsey reported in his talk here at the Convention that he found no significant difference in results obtained under three different forms of class organization and concluded that the influence of the teacher was the most important factor. "Given a good teacher, other factors in teaching reading tend to pale to insignificance," said he. And this makes a lot of sense.

Personally, I believe that the grade system and the grading system will disappear eventually, but why do we have to replace them with any other one system all neatly wrapped up in a package and tied with a silken cord? Does it have to be *all* black or *all* white? In the transition period while we are working our way out of grades, can't we strive for greatly increased flexibility rather than trying to pour classroom organization into any one labeled mold? Can't we somehow have a balance of working individually and in groups—lots of different groups—as skills, attitudes and interests are best accommodated without blueprinting any one particular scheme? This may be too idealistic, but it's the thought I want to leave with you in evaluating classroom organization.

Methods. Passing on to methods in the grades, three departures in method of teaching reading were discussed. Individualized instruction was the topic of Dr. Groff's talk and it was mentioned in several other meetings. This method seems to be gaining in acceptance throughout the country. In New York City, for example, a recent survey revealed that sixty-eight per cent of the 588 elementary schools were using the individualized plan of teaching reading. The Elementary Division of the Public Schools[3] reported their conclusion resulting from a survey in this way:

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[3] *Status of Individualized Reading*, October 1, 1961, Division of Elementary Schools, Circular E. S. 37, Board of Education, New York.

"Whether the use of the approach will continue to increase in New York City schools depends on the reading achievement of the children using the approach, a factor controlled to a large degree by the quality of the supervision given those classes in which the individualized reading approach is being used."

Probably this statement is representative of the thinking of other school officials who are awaiting the outcome of using the method over a period of time. The results of controlled studies are controversial. Practically all of the teachers who use the individualized plan, however, are enthusiastic about it and they claim that pupils read more books than formerly. The method is promising but it is too new for us to have accumulated a large body of conclusive evidence concerning it. Till then, evaluation is incomplete.

The Language-Experience Approach as presented by Dr. Allen and demonstrated by Mr. Halcomb deserves special recognition. For many years we have talked about the desirability of teaching reading as a part of an integrated language arts program. This is the approach with which some of the teachers in San Diego County have been experimenting. In this approach no distinction is made between the reading program and the program for developing the other language skills. Each child begins by reading his own stories dictated to the teacher. As soon as he makes "a commitment," that is, expresses his desire to write his own story, he is given help in doing so. From this time on he reads the stories that he has recorded and those of others. The reading of personal composition is important throughout the primary grades but pupils also read many books for interest and research purposes.

In evaluating this approach some might raise a question similar to the one often raised in regard to the individualized plan which is, "Can the scope and sequence of reading skills be covered adequately when the skill development program is left to teachers?" Data in regard to the effectiveness of the program, skillwise, is not available. I understand, however, that such data is now being collected, and that it is promising.

The implications of linguistics for reading method are receiving increasing attention.

One book embodying the linguistic approach to reading has been published. Unfortunately, in the speaker's opinion the authors of this book used the wrong vehicle for conveying their research. The format and the content of the pages are almost identical with those of the elaborate phonetic primers used in the 1890's.

It is hoped that in the future, linguistic specialists who write books for beginning reading will choose a vehicle to convey their findings which is in keeping with our knowledge of child psychology and the results of research in reading as well as research in the areas of children's interests and experiences.

Dr. Lefevre in his discussion and several other linguists here at the Conference stressed that children should first be taught to read and write the same language that they already speak and understand; that a functional linguistic grammar be developed and taught inductively, as an integral part of all language activities in order that there may be maximum reinforcement of skills. This viewpoint, it seems to me, is very sound.

Methods of utilizing linguistic theory in teaching reading are evolving. They haven't quite jelled yet, but much thinking is being done concerning them. We need more *cooperative* discussion and research between linguistic specialists and reading specialists, in order that we may each profit from the other's specialized knowledge.

The basic reader approach still is without a doubt the most widely-used approach in American schools. There is a trend to increase the number of books in basal series, particularly at the first grade level where it is not uncommon to have seven or eight basic books. Then there are additional language books, content books, enrichment books and so on—all extending the basic vocabulary and skills. Diagnostic tests are provided and Teachers' Manuals are filled with helpful procedures for meeting the needs of fast and slow learners as well as the average pupil. Basic reader programs have changed greatly in recent years and all for the good. They probably have changed as much as they have dared to change. In the future, however, we undoubtedly shall see many and more drastic changes in basic reading material—changes particularly in format and content, to some extent in method.

Reading Trends at the Secondary Level

Teaching reading in high school is one of the later innovations in American reading instruction, and at the moment this practice is growing in volume like the proverbial snowball. As a result we are suffering with many growing pains.

Schools, however, within their own staffs, guided by astute administrators are in most cases meeting their own problems, providing for their own secondary reading instruction in their own way, and this is how it should be. No one set pattern is appropriate for all high schools, and it is good that individual schools are working out their own solutions. To help them, generous supplies of new materials are being published for use in teaching reading skills to junior and senior high school students. In-service courses are being given to teachers in all high school subject areas, colleges and universities are adding both graduate and undergraduate teacher-training courses in high school reading. Conferences such as this one feature helpful programs dealing with secondary reading.

While most of the teaching of reading is done by English teachers or reading specialists, subject matter teachers are becoming increasingly interested. They are attending reading courses in substantial numbers and are in many instances attempting to do something about reading in their special subject areas. We need much more teacher-training in reading at the secondary level, however, and we need much more cooperation on the part of subject specialists. But on the whole growth in this area is vigorous and healthy.

Reading at College and Adult Levels

The teaching of reading to college freshmen who are deficient in reading skills is of course becoming a wide-spread practice and thousands of adults in life outside of college are attending reading centers throughout the country.

A great variety of methods, materials and gadgets are used for instructional purposes. One generalization, however, seems to emerge from all reading improvement attempts regardless of method or medium: Participants in the courses do increase in speed, and often in comprehension, but almost always it seems there is an increase in speed without reducing comprehension.

Another generalization might be mentioned: This one was drawn by Dr. Traxler[4] as a result of his most recent summary of research in reading. His generalization is: "No greater improvement in either speed or comprehension can be obtained through the use of mechanical devices than can be secured with more informal procedures."

The two generalizations just stated seem to have clear-cut basis of evidence.

Our research of adult reading, however is direly in need of improvement. The design of most of the studies reported is one in which nothing more is done than to give parallel forms of a test at the beginning and end of a course. Rarely is a control group used.

Furthermore, the factors measured by research in adult reading have been limited. Studies have dealt predominantly with initial and final measures of speed, comprehension and eye movements as affected by different teaching procedures, instruments and materials. This research should be extended to include studies of flexibility of speed, transfer to various subject areas and retention of improved skills.

There appears to be need also for improvement in the instruction itself. Deverell,[5] for example, after surveying American and Canadian courses arrived at the conclusion that teachers of freshmen reading programs should augment their training by teaching vocabulary, organization of reading, study procedures, critical reading and probably visual perception. Mayhew and Weaver[6] conducted four studies with college freshmen and from the results they concluded that ". . . the most effective techniques have not yet been established."

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[4] Arthur E. Traxler and Ann Jungleblut, *Research in Reading During Another Four Years*, Educational Records Bureau, New York, 1960.

[5] A. F. Deverell, "Are Reading Improvement Courses at the University Level Justified?" *Invitational Conference on Educational Research*, The Canadian Educational Association, Saskatoon (September 15-16), 1959, pp. 19-27.

[6] Jean B. Mayhew and Carl H. Weaver, "Four Methods of Teaching Reading Improvement at the College Level," *Journal of Developmental Reading*, 3 (Winter, 1960), pp. 75-83.

So there are still many challenges in this area.

Clinical Activities

Now that we have discussed trends at specific levels, we shall consider aspects of reading that cut across all levels. Clinical activities is one of these. Clinicians continue to be active in their searches for causes of reading disability, new techniques of diagnosis, and of treatment.

Dr. Robinson in his talk mentioned that there was a trend toward making use of diagnosis in practical school situations. He also mentioned especially a trend toward greater depth in analyzing test results, and varied approaches toward better diagnosis of brain damage. In the psychological and neurological section, early identification of potential retarded readers and prevention was urged. These are a few of the evidences that lead us to believe that progress is being made in diagnosis.

Biochemistry, blood tests, medication were also mentioned in some of the talks. Experimentation has not proceeded far enough, however, so that diagnosis or remedies of these types have only general applications.

As for teaching techniques, either clinicians are not doing much in the way of developing new procedures or else such techniques are not being reported. Much greater value could be derived from reports if writers would describe their teaching procedures more specifically.

The clinic as a whole is a very significant development in American reading instruction. Its value is attested to by the fact that public school systems throughout the country are adding clinics and clinicians to their reading improvement facilities and Staffs. Before too long, social agencies, industry and business may sponsor reading clinics in their respective organizations.

Our reading clinics of the future may serve more individuals at both age extremes—older people who wish to improve their reading ability, and younger children whose parents want to find out of they can take reading instruction safely, and if not what can be done to ensure reading success when instruction begins.

In evaluating clinics I have one strong suggestion for improvement, particularly in cases of clinics operating in departments or schools of education. Most clinicians in such situations should raise their services to a higher level. Instead of devoting practically all of their talents, knowledge and time to diagnosing and teaching a few retarded reading cases, they should envision their major functions as those of demonstration and research; demonstrating diagnostic techniques and procedures not only to teachers in training but to teachers in the public schools; conducting research to add to our information more about causes of difficulty and more effective treatment procedures. These grassroots contributions of clinics should be nurtured and expanded.

The Teaching of Literature

I was pleased, indeed, that the teaching of literature was discussed in several of our section meetings. Appreciation of and taste in literature should receive much more attention in our schools, and I'm speaking particularly of elementary schools.

Results from studies indicate that we have a big job ahead in developing wholesome interests and discriminating tastes in reading literature, together with the necessary skills. As Dr. Hartley said . . . "reading literature requires particular skills and techniques that must be learned." We need to give more attention to these *particular* skills and techniques.

While we have made tremendous strides in the last decade in increasing the *amount* of voluntary reading which children do, we haven't done so well in regard to *what* they read. Our next big frontier is that of developing more discriminating *tastes* in literature.

Automated Teaching of Reading

There are several influences in our present civilization which are presaging wider use of automated facilities for teaching reading: the population explosion, the scarcity of teachers, and the technological revolution. In the midst of this jet-propelled technological age it is but natural that many are turning to automation as a solution to our teaching problems in reading.

Television is being used in some schools for teaching reading, but the classroom use of TV for reading instruction has not expanded as rapidly as some people had anticipated. A rather new development is that some local commercial broadcasting systems are giving instruction in reading, and national systems may soon do so.

Perhaps the most noticeable recent expansion of TV insofar as its service to reading instruction is concerned is its use in giving teacher-training courses. We have reports of professors using TV in college reading courses for teachers and several reports of cities using this medium for in-service training of teachers.

As one example of this practice: Fifteen sessions of TV instruction on methods of teaching reading were given to a group of 5,868 teachers this year in New York City. In a preliminary report of the effectiveness of this TV course it was stated that nineteen out of every twenty of the 5,868 enrollees report that taking the course improved their teaching of reading.

In city school systems where the number of teachers to be reached is extremely large perhaps a TV course is the most expeditious medium for reaching the masses simultaneously with reading assistance. In the case of college courses in teacher-training, TV permits the instructor to demonstrate teachers and children at work applying the methods discussed in his lectures, and this is a real advantage. TV has a great deal of promise, for use in this capacity.

Films and film strips are being developed for use in teaching reading. Some of the basic series of readers have developed film strips to accompany early readers in their series. A series of beautifully colored films has been developed by Bamman and Dawson[7] on the well-chosen and significant aspects of reading. Coronet Films has a series on "Reading Improvement," and there are others. We probably shall see many additional film developments in reading in the future.

At the present time, it is the teaching machine that is claiming the spot-light in automated teaching, and you heard about this from Dr. Komoski.

Reading, however, is one of the last of the subjects to yield to the teaching machine. Some reading frames have been developed, however, and many more are on the way.

In evaluating the use of the teaching machine in teaching reading we need to recognize that the machine makes its best contribution to learnings that have to be fixed, facts that have to be memorized, processes that have to be made automatic. The reading frames for working with text which I have seen have used objective response-type exercises which on the whole check literal comprehension. More important, however, than literal comprehension are the processes of interpretation and critical reading. These processes do not always result in one exact answer. It would seem that the maximum growth in interpretation and critical reading would result only in situations in which the teacher stimulates thinking, with guiding questions, remarks and responses and in which there is interaction of the thinking amongst a group of students.

The development of interest in reading widely and growth in taste and appreciation are facets of reading that do not lend themselves to routine practice and objective testing. Better leave these growths to a stimulating, artistic teacher.

The teaching machine may be used to give practice on certain aspects of reading, but certainly it would be quite improvident to think that we could hand over the major responsibility for reading instruction to a teaching machine, and proponents of teaching machines do not expect this to be done.

Some Answers to the Criticisms of American Reading Instruction

A few years back we suffered from a minor "Flesch" wound. Now we are being stabbed all over!

The attacks of the critics seem to spring from two basic assumptions: (1) that the children of America are not reading as well now as in former times; (2) that the reason for the lowered achievement is that the schools are teaching exclusively by the word method, which some of them have dubbed "the cancer of configuration." They are crusading for the return of phonics to the schools as the only way in which literacy in future America can be ensured.

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[7] Henry A. Bamman and Mildred Dawson, *Pathways to Reading*, C-B Educational Films, San Francisco.

First, I should like to discuss the word-method versus phonics controversy. Both word method and phonics have had peripatetic existences in American history. First one is in and the other is out and vice versa. This is an old, old story.

For the first 175 years of our history children learned to read without the benefit either of word method or phonics. Then after the Revolution phonics entered the scene. Noah Webster was concerned about unifying the various languages spoken in America. He analyzed the English language into sound elements, prepared his Blue-Back Speller based on these elements and launched it in the schools. His assumption was that if all children learned to sound the letters, all of them would pronounce words in the same way.

Webster's phonic method was used for several years, then around 1840 our educators came back from visits to Prussia, telling how instructors were initiating children into reading by teaching them whole words. Soon after, readers based on the word method appeared and this method was widely used until about 1890. This is the only period in American history in which educators and authors of readers have advocated the word method as the sole method of teaching word recognition.

About 1890 complaints arose similar to the ones that we hear now. Children weren't reading well and it was all blamed on the word method. A sharp reversal of practice followed. Elaborate phonic systems were evolved and new readers were published in which children were started out in first grade memorizing letter sounds, and the most of the reading time in the first grade was devoted to drill on phonic elements. This appears to be the sort of thing that our critics want us to return to.

The extreme emphasis on phonics in beginning reading and throughout first grade characterized the most widely-used method up until about 1920. Then we departed from phonics again. The scientific movement in education emerged between 1910 and 1920. Standardized reading tests appeared for the first time. As a result of administering these tests in school systems school people were appalled to discover the extremely large number of children who were not reading well, or often not at all. Those pupils that were reading were simply calling words and didn't know what they were reading about. Now extreme emphasis on phonics was blamed. Silent reading with emphasis on meanings came in and phonics was practically abandoned for about fifteen years. If this were the period in which the critics say we were not teaching phonics they would be right. But this period has long since been dimmed in the annals of history.

About 1935 schools again became deeply concerned about the numbers of children who were not learning to read, they re-examined phonics, and some investigators carried on studies revealing that the study of phonics was effective. Phonics began to come back gradually and it has been coming back ever since. During the last ten years phonics has been taught more generally and more extensively than at any time since the early 1900's. Basic reader systems of today provide a phonics program embracing all important phonic elements contained in Webster's original analysis of the English language. And all reading series advocate the teaching of phonics from first grade through sixth, as well as stressing other word-attack skills. Dr. Barclay[8] reported as a part of the Columbia-Carnegie Study that teachers throughout the country believed overwhelmingly in the teaching of phonics, and in addition they taught other methods of word attack. Dr. Mary Austin[9] in her preliminary report of the Harvard-Carnegie Study stated that she found no school system which omitted phonics; and that all except one mixed phonics with other word attack skills as recommended by most authorities.

One of the chief differences between the phonics of the early 1900's and the present phonics is that the phonics of yesteryear was taught in one large dose in beginning first grade, while the present practice is to start children out reading experience stories and to delay the teaching of phonics in first grade until such time as initial interest in reading, attitude toward reading for meanings, and foundations of desirable eye-movements are established. Then phonics *is* taught in the first grade and throughout all of the other elementary grades. Phonics, however, is not generally used *exclusively* as a method of attack. The word recognition program is strengthened by teaching the use of context clues, structural analysis and dictionary skills, as well as phonics.

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[8] Alvin Barclay. Report given at "A Policy Conference on Reading" Chaired by James Conant, New York: September 21, 22, 1961.

[9] Mary Austin. "Harvard-Carnegie Study—A Preliminary Report given at the Seventh Annual Conference of the International Reading Association, San Francisco, May 4, 1962.

So in response to the criticisms dealing with phonics versus word method we can say:

1. The pure word method probably does not exist in any school in the country today.

2. The type of phonic teaching which the critics are urging was abandoned in our schools some forty years ago because such large numbers of children were not learning to read.

3. Phonics *is* taught today not only in first grade but in all six of the elementary grades.

So much for phonics versus word method.

Now what about the "crisis in reading" that the critics are talking about? Is it true that reading instruction is degenerating in its effectiveness? Several comparative studies have been made which are favorable to present-day results. Worcester and Kline[10] compared test scores of 1921 with those of 1947 in Nebraska; Miller and Lanton[11] compared scores of 1934 with those of 1954 in Evanston, Illinois, and Gates[12] compared scores of 1937 with those of 1957 derived from representative groups throughout the United States. All of these investigators found gains in the scores of youngsters taught at the later date.

"What about all these remedial cases you hear about today?" is a question frequently asked, and it is usually followed with a statement something like this: "I never heard about remedial cases when *I* was in school," and this is supposed to be a sort of barb because we have so many remedial cases at present.

Let me answer this question with an example from the field of medicine. I was in the home of a physician a few evenings ago and I repeated to him a question which I recently had heard an elderly gentleman ask. The question was, "Is this heart attack malady something new? I never heard about it when I was a boy."

"Of course he didn't hear about heart attacks because doctors didn't know anything about them," was the reply. "They knew about other kinds of heart trouble but not the heart attacks you hear about today."

Then my physician friend went on to explain that for many years this affliction was treated as acute indigestion. When individuals had what is now commonly known as a heart attack they were given medicine for stomach trouble, and hundreds were dying with what was mistakenly called "acute indigestion." It was not until the early nineteen hundreds that Dr. James Herrick [illegible]ush Medical College wrote his classic work on coronary thrombosis, which is a clot in a coronary artery. Dr. Herrick delineated the affliction and its symptoms so clearly that the average clinician was then able to identify it, understand it and treat it. With the identification of the trouble and all the research that accompanied it the public became conscious of this malady and now we never hear of "acute indigestion" but we continuously hear of "heart attacks."

I'm sure you sensed my intended analogy long before the heart attack story was finished. Just let me say briefly that the science of remedial reading also has developed tremendously in recent years. We now know how to identify remedial readers, and we have developed ways of diagnosing and treating them. And along with these developments the term "remedial readers" has become as common as "heart attacks." The layman often jumps to the conclusion that since he has only heard about remedial readers in fairly recent years, that we didn't have them in the good (?) old days.

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[10] D. A. Worcester and Anna Kline, *Reading Achievement in Lincoln, Nebraska*. University of Nebraska Teachers College, Lincoln, Nebraska: 1947.

[11] Vera V. Miller and Wendell C. Lanton, "Reading Achievement of School Children — Then and Now," *Elementary English*, 33 (February, 1956), pp. 91-97.

[12] Arthur I. Gates, *Reading Attainment in Elementary Schools: 1957 and 1937*, New York: Teacher College Bureau of Publications, 1961.

Another point: not all remedial cases are word recognition cases and it follows that inability to use phonics is not necessarily the *sine qua non* at the root of all reading disability. As we all know reading deficiency may be due to lack of intelligence, brain damage, neurological defects, physical diseases, language handicaps, lack of experiential background, emotional disturbances, and so on. How naive the critics are in claiming that all reading disability is due to the fact that we don't start children out sounding letters immediately upon entrance in the first grade!

Now let's examine some figures: our critics claim variously that from one-half to three-fourths of the children in the United States are behind in reading achievement and that at least thirty-five per cent are seriously retarded in reading. I don't know from what sources these figures are derived. I have reviewed many studies of the incidence of reading disability and I can't find studies which show so high an incidence as the critics claim.

I have turned to two of the most reliable sources I know of for their latest figures. The National Council of Teachers of English recently reported that there are nearly 4,000,000 pupils in elementary schools having reading disabilities. The Office of Education in Washington states that its latest figures on elementary enrollments as a whole was a projected enrollment of 24,686,000 children in elementary grades for the fall of 1961. The 4,000,000 reading disability pupils would constitute sixteen per cent of the total. We regret of course that the per cent is this high and we must work vigorously to reduce it. The important point that I want to make, however, is that sixteen per cent is far below the number estimated by our critics.

Going backward for a moment, we find in the Twenty-Fourth Yearbook of the National Society for the Study of Education[13] published in 1925 this report: "Statistical studies make it evident that something over thirty-five per cent of the children (tested in 1924) are educationally retarded." If they were "educationally retarded" we may be pretty sure that they weren't reading well. Thirty-five per cent in 1924 is a pretty large number.

It should be pointed out also that these "educationally retarded" children in 1924 were children, on the whole, in the "crop" that had received reading instruction with the start-the-first-day-on-phonics-drill method used so widely between 1910 and 1920.

And while referring to the effect of this extreme emphasis on the old type of phonics, might we pose this question: If this emphasis on phonics was such a good method why are hundreds of men forty-fivish and, fiftyish flocking back to reading centers now to learn how to read better? They, too, were taught by the beginning first-grade isolated drill phonics method.

Now for the illiterates: in consideration of the imaginary illiterates of tomorrow let's take a quick look at the real illiterates of today. President Kennedy, as you know, is initiating a drive to wipe out illiteracy. The 1950 census showed that there were about 9,500,000 functionally illiterate adults in our country. Kennedy's special educational census in 1959 showed that the number of functional illiterates had dropped to 7,800,000. So it appears that 'without any special attention the number of illiterates declined by about 2,000,000 or twenty-two per cent in nine years. This does not substantiate the dismal prediction that nearly all of our population will be wallowing in the abysmal quagmire of illiteracy in the years ahead.

So it seems we have been making progress during the last several years—much more progress than our critics have been giving us credit for. We must not fail to recognize, however, that we do need to make even greater improvement in the future. According to Dr. Austin's "Preliminary Report of the Harvard-Carnegie Study," the teaching of reading in our schools is mediocre. (Let me hasten to add that the findings indicate that this mediocrity is not due to lack of effective methods available; it is due to the fact that teachers are not making use of methods recommended by authorities.) The chief recommendation in Dr. Austin's report is that teacher-training in reading should be extended and improved both in the offerings of colleges and in in-service courses of school systems. I am sure that this recommendation is sound and urgent.

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[13] *Twenty-fourth Yearbook of the National Society for the Study of Education*, Bloomington, Illinois: Public School Publishing Company, 1925, p. 22.

The research reports presented in this program were stimulating and constructive but nearly all of them ended with, "We need further research on this aspect of reading." And we do need further research, much more of it on all aspects of reading, and particularly in regard to the perceptual processes used in reading.

We in the field of reading know that the old method of teaching phonics broke down, and most of us are not in favor of returning to a discarded practice. What *we* should be concerned with is the whole area of perception. The public in its laity talks about phonics because phonics is an easily identifiable concept. Phonics is but one aspect of the total perceptual process used in reading. We need desperately to find out more about perceptual processes both auditory and visual. We need definitive and convincing research in regard to different units of recognition — their length, timing, sequence and their effects on reading ability; we need new tools for diagnosing perceptual ability in its many facets—not just in regard to matching pictures and recognizing letter sounds; we need to create new methods and devise new materials for use in developing different aspects of perception. The perceptual process is a frontier—an important and urgent frontier for our professional exploration. Let's raise our sights above the outworn topic of phonics versus word method and delve deeply into the whole area of perception in search of better ways to teach word recognition.

In addition to these recommendations, we need also to put more effort, more concentrated, inspired, dedicated effort into the teaching of reading and into the learning of reading. In almost every public address given by U. S. Commissioner McMurrin, he urges "more vigorous" education.

Because of the competition which threatens our democratic way of life, leaders in all aspects of our society are pushing production to new high levels. I wonder if we, as teachers of reading, have really meshed ourselves in with the pace of America's stepped-up endeavors? More specifically, are we in the field of reading working hard enough at the job of teaching this skill that is the very key to all other educational achievement? And are we holding our pupils up to the high standards of which they are capable?

Superintendent Paul McDonald of South Williamstown, Massachusetts said: "We are a wealthy country and we provide wonderful things for our children, but although we have built our wealth by hard work and sacrifice, we are often too reluctant to ask our children to do the same. . . . We should perhaps take a look at ourselves to see if we have the courage to hold our children to high standards of performance." This is a serious and a provocative thought.

In addition to holding pupils to higher standards, however, we need to encourage them to do the work that is necessary to achieve these standards. Agricultural scientists have found that a baby chick must make five hundred pecks to get out of its shell in order to be strong enough physically to endure the rigors of the outside world. Sometimes a kind farm woman feels sorry for the little thing and opens up the shell so the chick can emerge. The chick being immature physically either dies or lives on as a weak chicken. Let's make sure that the pupils in our care make their five hundred pecks, whether it be in phonics or whatever, in order that they may emerge as strong readers.

And let us make sure that we, ourselves, make the five hundred pecks that are necessary in getting reading results. Most of us need to work harder, to put more of ourselves into the job, to teach reading more vigorously.

Now what about our immediate adjustments in methods? Are we going to succumb to the critics or not? It is said that the psychoanalysts have developed a new version of the story of "The Ugly Duckling." According to their version the duckling never finds out that he is a swan. He simply undergoes analysis and adjusts.

We, like the ugly duckling, are troubled now because other birds are pecking at us. We certainly *are* undergoing analysis, analysis by people not trained in our field of specialization, by people who either are uninformed or misinformed concerning the history of reading, the research that has gone on in this field, our present practices, and our plans for future research.

I think we should be more voluble in

acquainting the public with facts about the word method and the phonic method and about *all* of the other skills needed in well-rounded reading competency; about the results of research and the efforts of the people in their own schools and everywhere who are striving to improve reading. Let us give this information through such mediums as letters or articles to local papers, talks to the meetings of Lion and Kiwanis Clubs and other community agencies, and certainly talks at our parent-teacher meetings. We, the school people, have an opportunity that no other agency has—the opportunity of working in close contact with practically all parents of school-age children in the nation. Let us make the most of this opportunity and acquaint the public with the facts.

In addition to giving information I would hope that somehow we could instill within all parents the concept that the way in which they could make the greatest contribution to reading improvement is to give their whole-hearted loyalty and support to the public schools and the personnel who are now dealing with their children. Loyalty would raise the morale of administrators and teachers who are responsible for reading instruction. Financial support would enable us to pay salaries that would attract highly-trained individuals in sufficient numbers to staff our classrooms adequately; it would enable us to place libraries in all elementary schools; it would ensure an abundant supply of reading materials in classrooms; it would enable us to do more research in reading. All of these things are needed in developing greater reading competency.

Yes, the public could make a tremendous contribution to reading improvement if they would more vigorously direct their loyalty and support toward these larger goals.

As for ourselves, we shall be making adjustments, of course, probably more during the next ten years than we have previously made in the whole history of reading instruction. We are open-minded people; we are flexible in making change, we are willing to retool if research shows us that it is desirable to do so. I am confident that we shall make many salutary changes in the future not as a result of layman pressure, but as a result of sound and convincing research conducted in our own field.

My final evaluation of American reading instruction is that in terms of new techniques, new materials, and of statistical data we have made excellent progress during the last two decades. We have no occasion for chagrin. We should be proud, very proud, of our accomplishments!

So let us push forward vigorously, much more vigorously than ever before; provide and participate in more and better teacher-training; keep our minds open and unprejudiced; change when experimentation justifies change; let us maintain unequivocally our professional integrity; and continue to dedicate our specialized knowledge, our efforts, our aspirations to the improvement of American reading instruction.

2. Evaluating Materials for Reading Instruction—Intermediate Grades

THORSTEN CARLSON

The quality of any accomplishment is a function of the skill of the craftsman. But of great importance in determining the quality is also the adequacy of the tools he uses. It is appropriate, therefore, to evaluate the adequacy of the materials available for the teaching of reading. To evaluate and select materials, however, it is first necessary to understand the nature of the instructional task for which the materials are needed.

The Nature of the Instructional Task

The role of interest is very important in reading achievement, and will offset many deficiencies in skills instruction, but pupils who are to become good readers must be proficient in a number of facilitating skills. A list of such skills presupposes that reading is a very complex process. It is true that the research evidence does not establish conclusively the validity of a multifaceted concept of reading. Research, for example, by Davis[1] isolates only a few pure factors. On the other hand, research such as that by Guilford[2] seems to indicate that reading ability, like intellect, may be very complex.

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[1] Frederick B. Davis, "Fundamental Factors of Comprehension," *Psychometrica*, 9 (1944), pp. 185-197.

Regardless of our interpretation of the research evidence, there can be little objection to a varied instructional approach. Dangers inhere only when minute factors are considered in diagnosis, thus leading to fragmented instruction without appropriate recognition of common elements in learning.

Panaceas Oversimplify Evaluation

Oversimplification of the reading task or the failure to recognize its complexity has occasionally resulted in certain "panaceas." Such panaceas are often disarmingly simple. They are usually very logical. They generally include a generous portion of the so-called "true and tried." They are usually purported to be usable by all teachers, in all situations, and always usable in the same way. They are, it is claimed, good for all children, and for all teachers.

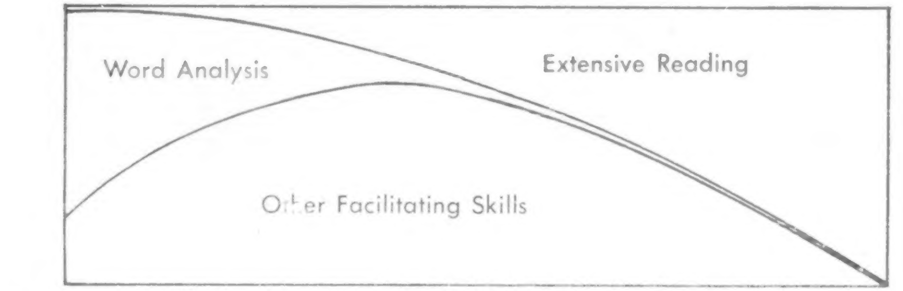
Phonics, in various forms, has often been presented as a singularly successful approach to the reading instructional task. It meets many of the requirements of a "panacea." Often such emphasis is tied to outmoded material for which many people may have deep sentimental attachments. Acceptance of such a simplified approach to the teaching of reading would have a profound effect on the problem of evaluation and selection of materials.

Related to the phonics approach are the round-robin oral reading procedures. Often they are related to a rather exclusive reliance on basal readers. Little consideration is given to the broader conceptions of reading methods as presented and practiced by modern basal reader programs. Such procedures are flagrantly wasteful of a pupil's time. They are attractive to one who would simplify the task of teaching and who wishes to reduce the problem of evaluation and selection of materials to minimal proportions.

Then there are those who propose the inducement of pupil interest as the panacea in reading. Such procedures presume on every teacher's part, sufficient knowledge, creativity, sense of organization, and time for the incidental instruction in reading skills. Procedures that emphasize interest and self-selection of materials, however, cannot share the merit of simplifying the evaluation and selection of materials. The whole world of appropriate children's books and other reading material must be considered.

Proposals that would ostensibly simplify the task of teaching reading also disregard the necessity of changes in the proportions of time devoted to the three major instructional emphases. This thought is portrayed in the diagram below.

A total program must consider the appropriate proportionate emphasis at each level of reading growth and development. A broad program using a variety of materials including basal readers will generally insure an appropriate balance in emphases at all levels of reading development.



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[2] J. P. Guilford, "Frontiers in Thinking That Teachers Should Know About," *The Reading Teacher*, 13 (Feb., 1960), pp. 176-182.

Wide Variety of Materials Needed

A balanced program in reading instruction requires a wide variety of activities for which many and various materials are necessary. Involved evaluation procedures are quite commonly used in the selection of basal readers with minimal evaluation in the selection of much other material. It is probable that the thoroughness of evaluation has some relationship to the cost of the material.

The basal reader and its satellite material is an important part of the reading instructional program. Perhaps its greatest importance is at the primary level where factors of gradation of reading difficulty and organization of learning experiences in the word recognition skills are important to success in learning. Proportionally more time is also devoted to reading in the basal materials at the primary grade levels than is true at the intermediate grade levels.

Individual titles (commonly thought of as the library collection), reference materials, current periodicals, newspapers, pamphlets, and bulletins assume a greater importance in the reading instructional program at succeeding grades throughout the intermediate and secondary levels. This is also true of the wide variety of informational books that the pupil reads in the curriculum areas of the social studies, science, and mathematics.

There is a vast array of materials designed for the development of specific skills. Included are the workbooks that accompany the basal readers and many workbooks designed for use with, or independently of, a basal series. Certain dangers inhere in the use of workbooks. If they are used as intended and with proper attention for pupils' needs, they are undoubtedly of value in insuring that certain skills are taught and appropriate practice provided. They are also helpful in conserving the teacher's time and energy.

A new era may be immediately ahead in the use of materials based on certain principles of "programmed learning"—progressive learning of small increments independently by individual pupils. Though the use of electronic machines for programmed instruction in reading is not widespread, similar principles of learning are applied in scrambled workbooks, and in highly organized files of reading selections for the development of word recognition, vocabulary, and comprehension skills.

Audio-visual materials are also aspects of a comprehensive reading program. Basal reader programs encompass many such correlated materials. In addition to such related material, there is available a wide selection of films, film strips, recordings, and picture material. Reading skills carry a heavy responsibility for learning in the elementary classroom. The required reading undoubtedly becomes a discouraging task for many pupils. Could audio-visual media play a greater role in learning and thus reduce the amount of reading "required?" It may be that by requiring less, more will be read.

Finally, diagnostic and achievement tests, a necessary part of a reading program, need to be evaluated. They are an indispensible aid to understanding the instructional needs of pupils.

Issues in Evaluation

Many issues must be considered and resolved in the evaluation of materials. Their resolution will depend upon the evaluator's point of view on the teaching of reading. A number of these issues are presented for consideration.

1. Any materials in reading cannot be evaluated effectively without considering the role of all materials used in reading instruction.
2. The basal reader should supply the "warp and woof" of the reading program with other materials serving supplementary functions.
3. Teacher's aids should enable and encourage variations in procedures. Precise structuring of all details of a reading program may limit teaching creativity.
4. A variety of teaching suggestions can be confusing. Attempts to implement many or all of the ideas may detract from the time that should be spent in reading.
5. Teacher's guides should assist in articulating reading instruction with reading in other curriculum areas. Skills learned in reading should be

applied and further taught in all curriculum areas.

6. The sum total of reading materials should provide breadth in reading interests.
7. The instruction in phonics should be based on accurate description of the sounds of our language. Phonemic analyses indicate that we may be teaching in sounds, distinctions that do not exist, and asking for identifications that are not really represented as we commonly think they are. For example, to ask a child to distinguish between the vowel sounds in *ear* and *sit* is to ask for a distinction that does not exist. To identify the vowel sound in *hot* as short *o* and the first vowel sound in *father* as two dot *a* may be teaching differences that do not exist.[3]
8. Remedial teaching of phonics should be distinguished from developmental teaching. To use third grade procedures for reteaching in the fifth grade is hardly appropriate.
9. Procedures of measurement and evaluation should be a part of the reading instructional program. Norms should be furnished to assist in evaluative judgments of pupils' achievement.
10. Workbooks and similar materials should be as nearly self-administering as possible. Programmed materials, which use small, graduated increments of learning with immediate pupil knowledge of success, should be used extensively.
11. Example, rather than precept, should be used in instilling important attitudes, ideals, and appreciations. Character building, as an important curriculum objective must be facilitated by adequate materials.

Conclusion

Materials properly evaluated and selected, when coupled with good teaching will eventuate in an impelling reading habit, instantaneous word recognition, and concomitant development in the thought processes. Such achievement enables the creative translation of written communication into the evolving patterns of ideas in an active mind. These objectives can become realities only if adequate tools are provided for teachers and pupils.

3. Evaluating Materials for Remedial Instruction

DAVID L. SHEPHERD

One of the first queries of teachers newly assigned the responsibility of teaching a remedial class is "What materials should I use?" These teachers, who often take their new assignment with extreme seriousness and dedication, know full well that much of their success will depend upon having adequate materials in both level and quantity. Of course, they are right—partly. In this earnest query a note of urgency is apparent. Materials and success in remedial instruction seem to assume a synonymous meaning. We know this is not completely true.

When choosing materials for remedial instruction, the teacher often finds that he needs to review his goals of remedial instruction. He needs to crystallize his philosophy — his guideline of effective methodology. Indeed, I have seen remedial classes which were well equipped with materials, but the pupils were indifferent, solemn, and resentful. Reading had no fascination for them. One student said, "We work exercises and all that jazz." When asked what he was learning, his answer was vague. "Oh, we read some paragraphs and answer questions," he said. Another student said of his class, "We read stories and answer questions. We do this on our own. The teacher just sits at his desk and answers questions if we ask 'em." When I leave such classes, I often think of a comment made by a college librarian. She said, "You reading specialists are killing reading."

Then, I have gone into other classes, some well equipped with materials, and others not so well equipped. But, the atmosphere is different. I sit down with the pupils amidst an aura of excitement and enthusiasm. The pupils' facial expressions show complete absorption. They are becoming articulate in the use of words and in discerning the skills. They share books. In these instances I would like to say to that librarian, "See!"

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[3] *Webster's Elementary Dictionary.* Springfield, Mass.: G. & C. Merriam Co., 1961.

What makes the difference between a class consumed by the eagerness and anticipation of learning and the other stamped by apathy and indifference? Do materials alone account for this disparity? Does the method of using the materials matter? Is the teacher's view of his role important? As I reviewed examples of successful remediation, several simple and obvious characteristics revealed themselves.

1. The instruction as well as the materials are suited to the child's instructional level. The materials are challenging; he can learn from them, and he can do so successfully. It is in some remedial classes that the pupil first tastes success in learning to read.

2. The instruction and the materials are pinpointed to each pupil's need. His peculiar reading deficiencies are determined by the teacher with the necessary planning to meet them. Such instruction requires material which is specific to the skill. Material which has each selection followed by exercises in the basic skills of word recognition, word meaning and comprehension does not fill the need for specificity. Such may, instead, be a review. Each pupil has a different constellation of reading skill deficiencies. The teacher picks what is appropriate. He does not select material and automatically follow it page by page.

3. The teacher needs to be organized. He needs to know what he must do to help each pupil. This requires a careful and continuous diagnosis. Further, he searches for materials which gives a gradation, a development of the skill which has been determined as a pupil deficiency.

4. The remedial pupil should acquire an understanding of the reading process and the skills involved in it. He should be "let in" on the reasons for his specific activities in the class. The pupil can help himself if he could know what to do, and how to proceed. Insight into his strengths and weaknesses does much to help the pupil to assess his condition and to plan with his teacher. Note that he needs to plan with his teacher, not just to plan alone.

5. Successful remedial classes are ones in which the pupil's personal worth is recognized. The teacher's viewpoint toward pupils, particularly disabled readers, is the matrix here. Also, materials suitable to the pupil's intellectual stage of development contribute. A sixth grader who is asked to begin reading in a pre-primer which is composed of stories about first grade children may well throw up his hands in disgust from the outset.

6. A remedial teacher is an optimist. He is energetic. He knows his material. He believes in the pupils—he knows that they can learn to read. Sometimes remedial pupils in the upper elementary and junior high school grades have become convinced that they cannot read. Pupil success is a necessity from the beginning of his instruction in the remedial group. The pupil likes to see a record of his growth. Materials designed to help the pupil note his growth, which is within the pupil's level of achievement and which lead him to increased levels of competency, supplement the teachers instructional procedure. In fact, they become interwoven.

7. Sound teaching procedures need to be employed. The teacher must know effective ways to teach the skills. Materials should be used which foster the teacher's approach. In fact, this is an important criterion when the teacher is asked to choose materials.

Many other characteristics and considerations may be mentioned that designate the successful from the unsuccessful in remediation. Such items as scheduling so that the classes do not occur during other school activities which are enjoyable to the pupils. The size of the classes, the general attitude of the school (both students and faculty) toward the classes, and the frequency of the classes all contribute to effectiveness. Then, no matter how well supplied with materials or how inviting the materials may be, inept handling of such consideration can be a death knell to the enthusiastic use of and values received from the materials.

In a questionnaire distributed to thirty teachers, information was requested asking them to indicate how they evaluated the remedial material they used. Twenty-five of the thirty thought that the appearance and format of the material was of vital importance. In fact, this was the most often mentioned feature. They emphasized the need for large black print. Also cited was the value of interesting pictures that are pertinent to the text. The teachers mentioned that pictures should be colorful, up-to-date, appropriate to their intended use, and to the age of the child. Many others wished for wide spacing—a page with a free wide-open look—so that it would not appear overbearing to the pupil.

Twenty-four mentioned the difficulty of the material as a point of concern. They wished for the vocabulary to be of increasing difficulty. Short, simple sentences were a must, according to the teachers. Only one said that the paragraphs should be well organized.

Content was the third characteristic. Twenty-two teachers cited it. They thought that the content should be within the pupil's experience. None said that they thought the pupil's experiences should also be enlarged. They did think, however, that realism in content was important and that it should be about other children of the same age. Humor was mentioned as an important ingredient. None mentioned literary materials nor factual presentations.

Eighteen thought that style was important. Particularly did they mention the role of pupil interest.

Only eight, however, thought that the material should help the pupil gain insight and understanding of the reading process and of what he is doing. Only four mentioned the need for the pupil to see his growth, and the necessity for systematic progress.

Most disheartening was the fact that only two of the thirty teachers said that the use of the materials—that is, its effectiveness—was dependent upon the teacher's philosophy, approach, and purpose. Materials can be mismanaged and misused. The teacher is the key person. The effectiveness of remedial materials depends on the teacher's use of them.

It is not my purpose to disclaim the importance of well constructed remedial materials. We know that the materials should have the characteristics we have implied. Also, we know that the materials should be in abundance. They are tools of instruction. Having the right tool for the right job can contribute to the difference between a job done and one well done.

Along with materials of remediation is the great need for many books. All children should read for pleasure, remedial pupils included. But many interesting books, readily available to stimulate extensive reading, provide practice. They also take reading from the mundane sameness of working on basic skills to the joys and delights that all remedial teachers want their pupils to experience. Then reading is not "killed."

Materials are important to the success of remediation. They are not, however, synonymous to effective instruction. Materials do not automatically mean success. The teacher is the key. The use made of remedial materials determine their effectiveness.

4. Evaluation of Professional Texts in Reading—Elementary

JOHN MANNING

Two statements of professional opinion relating to existing elementary school instructional practices seem relevant to the purposes of this presentation.

The first excerpt is quoted from *The Torchlighters: Tomorrow's Teachers of Reading,* a detailed summary of reading practices in the public schools.

> In the opinion of 84 per cent of these respondents (participants in the Harvard-Carnegie field study) much of the reading instruction in the local schools is neither consonant with theoretical concepts advanced in the college classroom nor in accord with what research findings indicate as most effective in teaching children to read.

The second observation is contained in a monograph, *Organizing New York State for Educational Change* a study supported by a grant from the Ford Foundation of the dynamics of instructional change in the public schools.

> The elementary and secondary schools act for themselves. Few specific instructional programs in these schools can be traced directly to college or university interest.

These concerns, coupled with the more aggressive lay opinions expressed in such books as Walcutt's *Tomorrow's Illiterates* and Trace's *What Ivan Knows that Johnny Doesn't,* lend more than casual support to the widely publicized belief that improvement in reading instruction for the children in our public schools is imperative. This demand for improved reading services should not be minimized; a society which vigorously seeks to improve its educational services is clearly preferable to a dormant one. It is necessary that there be dissatisfaction with present methods of teaching reading, not because those methods are inadequate but rather because those methods could be more adequate.

In a restricted sense, the topic of this presentation, "Evaluation of Professional Texts in Reading" could be interpreted as an analysis and contrast of existing philosophies, psychologies and methodologies as expressed by textbook authors in the field of elementary reading instruction. A more significant interpretation, however, would appear to lie in the area of evaluating the professional text as currently used in the undergraduate and graduate reading methods courses.

This presentation, in its later concerns, will be directed toward both points of interpretation.

The development of the professional text parallels, and to a certain degree reflects, the evolution of reading instruction in American schools. Nila Banton Smith (*American Reading Instruction*, New York, Silver Burdett and Company, 1934) suggests that the professional text as we know it today first appeared during that historical period when reading instruction was directed primarily and almost exclusively toward aesthetic appreciations in classical English literature. Texts such as Scudder's *Literature in the Schools* (1888), and McMurray's *Special Method in the Reading of Complete English Classics* (1889) were among the first to emphasize not only the "what" of reading instruction, but to a limited degree the "how" of it. It is interesting to note, however, that quite early in its development the professional text was refined by a more scientific presentation, *The Psychology and Pedagogy of Reading* authored by Huey in 1908. This text is still considered a standard reference in the field.

As reading instruction was directed toward more utilitarian objectives, the professional textbooks stressed more practical uses of reading and emphasized the acquisition of silent reading skills. Texts such as O'Brien's *Silent Reading with Reference to Speed* (1921), Germane and Germane's *Silent Reading, A Handbook for Teachers* (1922), and Watkin's *How to Teach Silent Reading to Beginners* (1925), were extensively used. Primarily under the influence of Frances W. Parker, the Froebelian principle of meaning as applied to the uses of reading was widely accepted and practiced.

As with most educational processes, these extremes—reading for cultural appreciation and reading as a utilitarian process—were resolved in objectives which embraced both. These broadened objectives in reading instruction differentiated the reading process as to purposes and defined certain skills as appropriate to certain educational tasks.

These broadened objectives in reading were reflected in many excellent texts appearing after 1925. Authors of such stature as Terman, Gray, Yoakam, Dolch, Gates, Patterson and Smith wrote texts of wide influence and significance in the field of elementary reading instruction.

Certainly within the last decade the complexity of educating for tomorrow's world, the serious lag between technological and educational achievement and the disturbing realization that yesterday's schools, materials and methods cannot optimally serve the learning needs of today's children have impelled a renewed emphasis on better professional texts for the better teaching of reading. Within the last ten years no less than thirty new editions or revisions have been published in the elementary reading area.

Professional textbooks can generally be classified into four main types:

a) Texts which emphasize the philosophy and/or psychology of teaching reading.
b) Descriptive texts emphasizing methodology, principles and examples.
c) Remedial reading texts which treat the educational causes of reading disability; diagnosis and prognosis.
d) Remedial reading texts which are concerned with emotional, motivational, neurological and psychological bases of reading disability.

Most often these texts are employed in college and university courses and are chosen by instructors on the basis of their suitability to the learning needs of the students who will use them as well as for their compatability with the particular philosophy of the professor.

Some commonality exists among these different texts, especially in the area of "definition of terms" and sequence of "skills to be taught;" most have common "goals," "objectives," "principles." Wide differences exist, however, in specific "methodology" and "grouping patterns for instruction."

Clearly some of [illegible] texts are particularly suited to undergraduate needs while others require more sophisticated use. It must be admitted, however, that the choosing of a textbook is less dependent on the type of professional course and more dependent on the training of the professor who teaches the course.

The dominant role of the fifteen chapter professional textbook in the reading methods course is a matter of accepted fact especially in the undergraduate preparation. This role interpreted in the light of the conclusions of the Harvard-Carnegie Study and the New York State Educational Change Study, which were cited previously, provides ample basis for evaluating the professional text as an effective instrument of professional preparation.

No one would propose that "the" professional text should constitute the total reading methods course; additionally, however, it cannot be disputed that in all too many instances, it does.

In evaluating the professional text as an effective promoter of sound educational practice, two strengths are readily apparent; the professional text provides an orderly and systematic approach for the preparation of reading teachers. Secondly, the professional text provides the best available means of informing large numbers of teachers of procedures to improve reading instruction practices. On these contributions alone the continued use of professional reading texts in teacher education courses seems justified.

It is much easier, of course, to discover or at least to suspect certain weaknesses in the design and content of the professional text; any school failure precipitated by teacher ignorance could, by *reductio ad absurdum,* be directly traced to inadequacies of the professional text. Less facetiously, weaknesses do exist.

Generally, professional texts are oriented, as are basal readers, toward instructional procedures for a certain segment of the population; especially inadequate are procedures for teaching reading to culturally different children such as the Puerto Ricans in New York, the Negro pupils of the South and metropolitan North, and the children of migratory workers in California.

Likewise inadequate, though steadily improving, are suggestions of programs for accelerated readers. There appears, too, a definite emphasis, perhaps overemphasis, on primary reading skills and applications. Additional elaboration seems needed in relation to reading in the content areas. More attention also needs to be devoted to the study of the phonetic elements of the English language. Though ordinarily taught in the speech arts area, recent research in the reading area, especially studies relating to auditory discrimination by Wepman and Durrell, highlight the need for a more precise knowledge of phonetics. Most needed of all, however, is the need for defining specific organizational patterns and suggested techniques for instructing various ability groups in the self-contained classroom.

This critical element, it is here proposed, requires laboratory experiences for implementation. The theory-practice relationship is not adequately resolved by existing professional texts nor, perhaps, can it ever be.

To a degree, it might be argued that specific methodologies might more effectively be learned through the use of teachers' manuals which accompany basal reading programs. Indeed some authorities are emphatic in their insistence that the methods courses are too "methody" now—that education courses and courses of study should be directed toward more foundational or philosophical objectives leaving the techniques instruction to the public schools. Henry Brickell, writing in *Organizing New York State for Educational Change* gives this incisive and realistic appraisal.

> Teacher educational programs, according to the people who staff them, do not attempt to equip the prospective teacher with specific instructional techniques, but concen-

> trate in developing a general professional wisdom out of which he can develop the specific techniques he needs for any given task. Actual instruction in specific techniques is said to be the responsibility of the schools which employ the college graduates. . . . College faculty members said that specific methods will be learned by the new teacher on the job. Those skills are left to be taught to him by the schools where he works—a responsibility which most local schools patently are unable to meet.

Clearly, the theory-practice problem is a most significant concern of both the undergraduate and graduate reading methods course instructor. The search for procedures to overcome this problem is the concern of the educational researchers, the publishers of commercial reading materials and the authors of professional reading texts. The more efficient use of the professional text as that text contributes to the improvement of services to the reading needs of children in public schools is a critical issue in this search.

It is the use, or misuse, of the professional text which requires serious and critical appraisal. The lecture-recitation method of instruction underwritten by assigned readings in the textbook cannot be further justified. This method of collegiate preparation has proved inadequate to the needs of the teacher candidate and ultimately to the learning needs of the pupils that candidate will teach.

As education moves to a more enlightened behavioral science, more functional laboratory experiences will be included in the professional preparation of the reading teacher. Especially in the techniques area, where existing classroom learning situations afford opportunities for both observation and participation by teacher candidates, the professional text can assume a more functional role, a more influencing position.

The professional text in this context would be used primarily as a reference manual. It would include clear developmental plans stressing grouping procedure to be used with existing basal materials. The text would present organization patterns for different ability groups with suggestions as to how those patterns could be implemented in the self-contained classroom. These more practical concerns would be supplemented by readings in the philosophical and psychological areas. Neurological and physiological areas of study would be reserved for the graduate program.

No professional text can possibly serve all the needs of teacher candidates or teachers-in service. Ideally the professional text should provide a sound understanding of the process of reading. It should contain that body of accepted knowledge which, if applied, will result in successful reading programs in our elementary schools.

The objective of all teacher education programs and the purpose of all materials used in those programs is the teaching act in a classroom. The professional text is but one of those materials.

Research efforts will continue to find better methods and procedures to teach children to read with more efficiency, ease and appreciation. Commercially prepared reading materials will offer new ideas and suggestions. Individual teacher ingenuity and creativeness will produce materials and plans for specific classroom situations. These new knowledges also must be incorporated in the professional education of the teacher.

5. Evaluating Materials for Reading Instruction at the Secondary Level

LEONARD JOLL

The market is flooded with instructional materials to be used with pupils in grades 7-12. Why is it we frequently hear teachers complain about instructional materials? What criteria shall be used in selecting materials to do the job?

No set of materials can be expected to do everything for all pupils. We must select reading materials as we select our wardrobe. One would not think of wearing evening clothes to play golf, and skiing clothes are not for swimming. We must therefore select our instructional materials for reading only after we have determined the purpose for which they are to be used. If we examine the large number of offerings in the secondary curriculum we will realize that every pupil who is involved in these areas must be equipped to handle a large number of reading tasks. A single set of materials designed to meet all of these needs would tend to be very general and so great in volume that the average pupil would soon become discouraged.

We must carefully consider the pupils who are to receive the instruction. We are dealing with a group of young people at an age level who are rapidly changing, almost from day to day. With the rapid change in our everyday living, and the change in the pupils we teach, it behooves us to be alert in selecting materials that will do the instructional job and will interest and challenge the pupil. There is not a single one of us who watched or listened to the first astronautical expedition of Colonel Glenn who not only was thrilled by this great event but was greatly aware of the strides made by our scientists, and by the large number of terms that will soon become a part of our daily vocabulary. This great event has completely changed our concepts of time, distance, and space. If we are going to be working with alert, intelligent young people, then we must be just as alert, intelligent, and up-to-date in our selection of instructional materials.

What are the instructional jobs that need to be given prime concern at the secondary level? I would like to divide these skills into the areas of: (1) Vocabulary, (2) Organization, (3) Critical Thinking, (4) Appreciation, (5) Speed, (6) Comprehension, and (7) Word Attack. If we can determine the needs of pupils in terms of these categories, and keep in mind the type of pupil with whom we will be working, then we will be better able to select materials and evaluate their worth.

Every school should have an effective testing program. Many have a testing program *per se;* this does not mean it is necessarily effective. We must look at the program each individual student carries. Some students will have more work in English and the social sciences while others will be more involved in mathematics and science. All students will be involved in vocabulary which will be tied to the individual's areas of concentration. If a pupil has a vocabulary difficulty, the type of difficulty must be further determined. When this is done, materials dealing with vocabulary development must be carefully selected so that they will concentrate in the area where there is the greatest need. We have many words which are used in all or almost all areas of the curriculum, but many of these words have certain connotations as well as denotations according to use. It must become the responsibility of the content area specialist to determine vocabulary deficiences in his area and then prescribe or construct materials that will be of the greatest help. It would be much wiser and far more effective to obtain a number of samples of vocabulary building materials and have them carefully examined by the content area teachers, who should then be able to determine which materials would best do a specific job. It could be that a number of vocabulary builders would do the job, on the other hand they may contain a dearth of material that may not be needed. We must strive to obtain the best materials; on the other hand, we should not waste valuable time of both teachers and pupils on superfluous materials.

In selecting materials to develop organizational skills we frequently find those which lean toward sequential development but not always from the point of organization. A good narrative story may be sequentially developed, but it may be very difficult to use in teaching outlining or in picking out main points and details. Materials used to develop these skills must be well organized and contain facts which are closely related. The reader should not have to search through the paragraph or several paragraphs to find a topic sentence. We frequently criticize a pupil's writing because he goes off on tangents. Let us not make the same mistake in the selection of his instructional materials. Short selections, complete within themselves, taken from science and social studies books may prove to be just the material for which you have been looking.

A big problem offered our young readers today, by radio, television, and the various methods of mass media is that of fact and opinion. This problem becomes more acute especially when many of our adult citizens depend upon the radio and television for keeping up on the news of the world. In checking a number of work-study materials, I find this to be one area which is often slighted and in many cases entirely forgotten. We must teach our students to read critically so they will be able to differentiate between fact and opinion. Critical reading is basic for writing research papers which will be required as the student moves along his educational career. A pupil may comprehend what he has read, but this is never a guarantee that he can differentiate between fact and opinion.

In the teaching of literature, we have always stressed appreciation skills. We want students to really enjoy their reading. We have tried to point out that from the printed page we are able to enjoy all kinds of experiences. From the comfort of a cozy chair we can travel to the most remote corner of the earth. If we believe this, then we should be able to provide our pupils with materials which will teach them this very valuable and certainly pleasurable skill. Instructional materials will have to be carefully checked or else this area may be entirely neglected.

Most secondary reading instructional materials will contain exercises to develop speed. It would almost seem as if the chief aim of reading has given way to speed. As a caution, no pupil should be placed on speed reading who has not proved that he is having no difficulty with word analysis or vocabulary. If these difficulties prevail, then speed reading will only enable the pupil to make more errors in a shorter space of time. Speed must go hand-in-hand with comprehension. Speed is no value if comprehension suffers. Exercises to develop speed must be carefully examined to determine that they are not of a single type in content. By this I mean, they must be greatly differentiated so that a pupil will be able to increase his speed but at the same time be able to vary his rate according to the material being read. Too often pupils are trained to increase their rate on simple narrative type material, and then when they try to read highly factual material at the same rate they are completely lost. Let us use speed materials, but not just for the sake of speed.

Recently I examined a number of secondary reading materials. In addition to this I spent a considerable amount of time in the secondary classrooms. What happens when we check comprehension? We want the best answer possible, but do we get it? Do we ask the best question possible? We select good materials, we develop critical reading, organization skills, and vocabulary, and then kill everything by asking a factual question which may be answered by "yes" or "no." Examine the questions used in checking comprehension. If they do not do the job, then change their format. Let us use more inferential, sequential, and vocabulary type questions. These type of questions will do a real job of clinching those skills we have been trying to develop.

I have purposely left the area of word attack to the last. Not that it is unimportant, but when placed at the beginning of such a discourse, word attack can easily be forgotten. If we should be asked which word-attack skills we use when we meet unfamiliar words, the answer would probably be, "I don't know." This does not mean we are weak in word attack skills, it only means we have these skills so well in hand they become automatic. Pupils must master this ability as quickly as possible. Give exercises which will enable pupils to apply these skills so they become automatic.

We are well supplied with good materials, but we must not expect a cure-all from any of them. If they were that good, then you and I would soon be looking for other types of employment.

6. Evaluation of Materials for College and Adult Reading

DOROTHY M. LAMPARD

Before evaluating reading materials at any level, the reading characteristics, the needs of the reading group and their particular reading problems must be determined. Any criteria for selecting materials for college and adult reading must be based on these three things.

Reading Characteristics of the College and Adult Readers

Limitations. Recently, changes in the problems of college students and adults have emerged. These people are now regarded as being at the pinnacle of the developmental reading program. Developmental rather than remedial reading classes are now needed. Both groups have a common difficulty: Progress with their work is being inhibited by inability to cope with the reading demanded by their present occupation or environment.

On standardized reading tests these subjects usually tend to score in the upper quartile. They state that they are unable to cope with both the amount and type of reading necessary to their successful participation in organized study, to maintain their knowledge of new developments in their field, and to encompass sufficient general reading to enable them to participate intelligently in their social group. Executives require increased general knowledge in order to make intelligent decisions. As more and more published material floods the libraries students are faced with a similar problem to that of the executives: the selection and utilization of the knowledge gained from reading. Their reading methods are static, inflexible, and unselective, and this is their major difficulty. They have "mental cramp." These people require not only to develop speed and comprehension, but they need to learn to select, evaluate, and integrate difficult and diverse material with considerable competence.

Needs. The majority of personnel usually state that their need is to be able to read faster yet with increased comprehension. The verbalization of their need and the actuality are not identical. One of their great lacks is vocabulary. This highly specialized vocabulary in their own specialized field has proved a hindrance to intelligent communication in other areas. Articles are frequently disliked because ignorance of the vocabulary inhibits comprehension.

These people have learned to read accurately but detail assumes paramount importance. As Perry suggests:

> What they deem to do with almost any kind of reading is to open the book and read from word to word, having in advance abandoned all responsibility in regard to the purpose of the reading to those who had made the assignment. They complain consequently of difficulty in concentrating and feel that they have "read" whole assignments but are unable to remember anything in them.[1]

For them reading matter sets the purpose, instead of the readers assuming responsibility for using material for their own purposes. They fail to realize that their own initiative should determine, to a very large extent, the purpose. They abdicate, in fact, their thinking ability, and feel more secure in substituting the author's thinking and concerns for theirs.

The problem appears to be the complete lack of understanding of the reading process. The reader should always assume a dual role. At one and the same time he must follow the author's thought so closely that he becomes almost the co-author, and simultaneously he needs to stand outside and make an objective judgment of the ideas presented. The process involves absorption and reflection. The former requires intellect and the exercise of reading skills but it is only in the reflective reaction that emotion may be involved.

In summary, these readers have not learned the necessity of reading for ideas or of realizing that the final stage of the process must be integration. Their previous training in comprehension appears to have stressed the organization of structure or style rather than the sequential development of ideas. For example, in summarizing they list topic sentences, but rarely organize these into the main and supporting ideas. They are not conscious of the internal mental structure of the author's message which is frequently implicit rather than explicit.

Both students and adults bemoan the fact that they lack time for reading. This common complaint disguises their underlying lack of real need of reading. In the modern world the decision of how to use leisure time reflects values. It is true that with so many demands competing for time, they need to learn to be selective in their choice of reading material to obtain maximum knowledge within the time available. Quality in reading material will frequently obviate the necessity for quantity. For example, the periodic reviews of recent developments in education in science, in communications, in literature, and the arts which appear in magazines such as *Satur-*

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[1] William G. Perry, "Students' Use and Misuse of Reading Skills: A Report to a Faculty," *Harvard Educational Review*, XXIX (Summer, 1959), p. 195.

day Review, *Atlantic*, *the Economist*, *New Statesman* and *Nation*, or *The Spectator* contain sufficient information to enable the intelligent layman to understand better the complexities of modern living. The complete comprehension of a few significant books is preferable to the superficial attempt to cover many.

Speed reading has been emphasized by modern publicity. Many adults feel cheated if the course does not succeed in teaching them to read, "three stops to a line." This sense of urgency combined with their mental set towards reading have both to be utilized to make these people aware of the need for flexibility in purposes and method of reading at all times.

Reading Problems. Because of the wide range of interest in differing subject areas and diverse reading abilities of college students and adults, generalizations concerning their reading problems are difficult. Several writers[2] have enumerated the problems of college students and typical and mature readers. It is not proposed to repeat these here but recent observations indicate some changing emphases which appear to be important.

While the college student requires practice in reading in his field his need also is to improve allied language activities such as note taking, listening, discussion techniques and essay writing. Many students are often brilliant in one particular field, for example science, but such concentration has often been at the expense of their expressive or "encoding" ability. Specialization appears to constrain the student's verbal development so that he often has only concrete language with which to describe complicated, abstract thought. Narrow reading has limited his verbal development. This becomes increasingly problematic at the graduate level. Here the reader is required to think at a high level not only in his field but must develop the ability to appraise and relate other fields.

While all have a very set habit pattern, for some, a reading course becomes a rationalization and an acceptable intellectual outlet for solving their personal problems. Others enter courses as a step towards promotion or increased cultural status.

Hence the materials selected should reflect the realization of these problems and of the individual reading needs.

Criteria for Selection of Materials

On the basis of the foregoing, criteria can now be discussed under three headings: interest, suitability and feasibility.

1. *Interest*. The interests of adults whether in college or the community appear to have changed little since they were categorized by Waples and Tyler[3] in the nineteen-thirties. Both types of readers need to define and refine their reading skills according to their own interests and preferences but simultaneously they may need to broaden the scope of their reading.

A first essential is to recognize the need for selectivity. In order to make sound selection the sources of materials such as good local bookstores, public or private libraries need to be known.

Interests, then, of adults are as diverse and as individual as the background and personality of the students within the class.

2. *Suitability*. Because of the diversity of interests, problems and needs, no single text, kit, or audio-visual material is sufficient or efficient for these readers. The efficacy of the material will depend on how opposite this is to the time, place and problem of the particular reader. From the previous discussion the multiplicity of purposes is obvious. The inclusion of a variety of material is inevitable.

College students will need to work with material which is similar to their texts and bears a close relationship to the type of learning demanded by the field. It should be capable of being used for expressive activities as well as of obtaining ideas.

A variety of types of materials to meet adult interests is essential but these should be such that practices may be continued outside the scheduled period. Sometimes the challenge of quality material should be posed. Practice in newspaper and magazine reading as well as biography, fiction, non fiction, and the like is also necessary. No single text will cover all this type of material.

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[2] Jack A. Holmes. "Factors Underlying Major Disabilities at the College Level," *Genetic Psychology Monographs*. XLIX (1954), pp. 3-95.

[2] William S. Gray and Bernice Rogers. *Maturity in Reading*. Chicago: University of Chicago Press, 1956.

[2] Ruth Strang. *Explorations in Reading*. Chicago: University of Chicago Press, 1942.

[3] Douglas Waples and Ralph W. Tyler. *What People Want to Read About*. Chicago: University of Chicago Press, 1931.

While the reading program for these groups must continue the development of reading skills such as vocabulary, rate and all aspects of comprehension, training in the more mechanical aspects of reading must not be over-stressed. As Perry suggests, "The mechanics of reading skill are inseparable at this level from the individual's purpose as he reads. If you train someone in mechanics alone, he drops right back into his old habits the minute he picks up an assigned text."[4]

Individualized reading seems to have the greater scope in this type of program. It is necessary, however, from a teacher's angle to have small groups working on similar materials so that discussion can take place and certain skills can be taught economically. Too frequently material is selected because it is suitable for the teacher rather than for those who are being taught.

3. *Feasibility*. The length of the course, the number and frequency of sessions are other determining factors as well as the possibility of obtaining and using materials in this way. A survey of adult and college courses reveals that they tend to range from ten to twenty sessions of sixty to ninety minutes in length, with a total time ranging from fifteen to forty hours.

The feasibility of carrying out such programs will depend on four principal factors: (1) the ingenuity of the teacher, (2) the provision of a wide range of materials, (3) the organizing of the period so that group and individual problems are considered, (4) the teacher's ability to induce the reader to exert effort and realize his own responsibility for his reading habits. The teacher will need to strike a balance between practice in sessions and between sessions, between the amount of reading and discussion and other allied language activities, between the types of assignments and between the different types of materials.

Variety in materials as well as matter is desirable. Newspapers, periodicals, magazines, paperbacks, hardcover books and also kits, machines, and films all have their place. Frequently the use of a mechanical device as a "shock" technique or as motivation is effective. Some adults feel the need to endow the machine with the responsibility for their reading development until they are sufficiently secure in their reading to assume that responsibility.

Conclusion

No simple criteria can be made. The multiplicity of innumerable variables demands flexibility both of materials and approach to the adult and college level.

7. The Skimming Process in Silent Reading

WALTER J. MOORE

A review of the literature of eye-movements, rapid reading, rate and comprehension reveals that some interesting observations on skimming have been made over the past half-century—it likewise reveals that very little fact has emerged from the studies of investigators who were directly or indirectly interested in the problem of skimming as a silent reading skill. There would appear to be as much confusion, opinion and absence of facts in the mid-fifties as was evident decades ago. In both the pioneering study of Whipple and Curtis,[1] and in the experiments of McClusky,[2] it has been noted that those experimenters recognized the limitations of their own efforts and cautioned against hasty generalizations from their work.

Textbook writers and writers of manuals purporting to tell how to skim, arrive at conclusions which have no relationship whatever to the few facts of a scientific nature which have been reported. How do these writers know that skimming should be introduced at the third grade level, or at the seventh grade level, or in high school, or at all? How do authors account for their detailed suggestions as to how to go about skimming? They do not account for them—they suggest techniques as facts—but there is, in truth, no foundation of facts.

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[4] Perry, *op. cit.*, p. 198.

[1] G. M. Whipple and J. N. Curtis, "Preliminary Investigation of Skimming in Reading," *Journal of Educ. Psych.*, VIII (June, 1917), p. 336.

[2] H. Y. McClusky, "An Experiment in the Influence of Preliminary Skimming in Reading," *Journal of Educ. Psych.*, XXV (October, 1934), p. 521.

Many reasons might be advanced to explain why there have been so few real contributions to knowledge of the skimming process in silent reading. One could be that no one has deemed the area important enough to warrant the expenditure of time and effort that such fundamental research would require. Another reason may be that real or supposed resistance would be offered by teachers who struggle to inculcate good reading habits in their pupils, and who would perhaps tend to view skimming as an undesirable or bad habit. Yet a third reason might be the lack of proper devices or techniques for the proper conduct of the experiments.

One point should be quite clear—it is a fact that there is so little scientific evidence extant relative to skimming that individuals who speak with authority in skimming matters are virtually unknown. While there is some evidence in scientific and a little more in popular literature regarding "fast" reading, there is confusion in most people's minds regarding fast reading and skimming. At the outset then there ought to be some understanding of what is meant by the term, skimming. In order to get at this definition of terms, reference has been made to the known scientific studies, all very limited in scope, which purported to get at a characterization of the skimming process. It has been observed that while well-known authorities in reading have referred to the skimming process, not one really has given it very careful study.

If skimming is a technique which will benefit mature readers, then we ought to be doing something about its proper development. It can readily be shown that the relatively little training which some individuals apparently possess was attained more or less accidentally or incidentally. Except in isolated instances individuals who know how to skim, and who skim effectively and efficiently, have developed their own systems—more or less hit and miss, trial and error. Not all people who skim are what might be termed mature readers—how then did they develop their techniques—and what are some of the factors that influenced this development? At least some of the answers to questions regarding skimming are being answered in research being conducted at the University of Illinois.

Findings from the Author's Studies

Beginning in the mid-1950's a series of studies on the skimming process in silent reading have been carried on at the University of Illinois. The author's unpublished doctoral thesis[3] reported upon several aspects of the skimming performances of advanced undergraduates and graduate students at the University of Illinois in the early 1950's. From this investigation and from companion studies certain very definite information regarding the skimming process has emerged.

One major conclusion to be drawn from these studies, stated broadly, is that there are significant differences in skimming processes which place this type of reading in a category apart from slow, normal, and rapid reading. The patterns of eye movements of skimmers are varied, and almost defy summarization. In general, skimmers fixate fewer times, take less time and score as well, or better on comprehension tests than do the fast readers, the normal readers and the slow readers. The patterns of coverage are highly individual—thus, one might be content with (and quite able to function effectively and efficiently) a technique that is characterized by close adherence to margins at either the left or right of the printed page. As margin-huggers, they appear to differ markedly from the individuals who confine their efforts at skimming to coverage from the middle of the page and to refraining from marginal fixating. Some skimmers begin their coverage at the first word, others start well along in the passage. Some skip considerably—others fixate on a word in a line and then return to it after having passed on.

Not all skimmers are good readers, as judged by the scores they are able to make on comprehension tests of the materials used or on reading tests of a standardized nature. Some individuals are not able to answer any questions following their skimming—striking evidence of the price paid for speed. Some individuals who have mediocre or poor reading scores on standardized tests, are able to skim, perhaps defying logic as well as their own expectations of their abilities to successfully engage in skimming. In general, the effective, efficient skimmer knows that he can skim, does skim, and suffers very little, if any, loss in comprehension as a result of utilizing his particular style.

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[3] Walter J. Moore, *A Laboratory Study of the Relation of Selected Elements to the Skimming Process in Silent Reading.* Syracuse: College of Education, Syracuse University, 1955 (Univ. Microfilm No. 55-964).

A second major conclusion to be drawn from these investigations is that successful skimming appears to require certain emotional freedoms which may outweigh intellectual or reading competencies—in short, certain personality types cannot bring themselves to skim. With those individuals upon whom emotional stresses appear to weigh less heavily, the skimming tasks are rather readily accomplished, albeit in a variety of ways. In those instances wherein the evidence seems to point to the presence, in marked degree, of emotional problems and burdens, individuals do not skim effectively or efficiently. There are, however, certain conspicuous and exceptional cases. Again, in some instances the presence or absence of certain personality factors appears to have little effect upon skimming ability or its lack.

Certain other conclusions growing out of the skimming investigations appear to be of sufficient importance to merit consideration. One concerns the sub-vocalization habit. The habit of resorting to inner speech or sub-vocalizing is reported by numerous individuals. Many individuals sub-vocalize in every reading task, the importance or lack of importance of the task at hand having little to do with the practice. In these instances control is at a low level or non-existent. People who are confirmed sub-vocalizers do not skim effectively or efficiently.

Implications for Further Research

Skimming would appear to be largely an individual matter, possessed or lacking, in mature readers. Skimming techniques vary and are largely acquired without formal training. Skimming would appear to be a trainable skill. What appears to be an effective and efficient skimming technique for one individual may be totally unsuited for another because of the individual's perception of his purpose for engaging in the task as well as his aptitude for this type of reading.

Skimming is generally regarded as a valuable skill, although some view it as dangerous. It is known that the relatively little training that some individuals have come by, has been obtained accidentally or incidentally. One can speculate on how much better skimming would have resulted had the training been systematic. One can likewise speculate on the kinds of training that readers ought to have.

Many investigators have found that the reader's intent, purpose, or mind-set will affect his eye movements; the more intensively the material is read, the more regressions and fixations and the longer the perception time. Customarily researchers in the eye-movement field have viewed the reduction in the number of fixations and regressions per line and the decrease in the average time of fixation as evidences of growth of efficiency in reading. Thus, while it is true that fixations are found accumulating around fairly difficult words, and regressive movements occurring as a result of unexpected word arrangements, poor punctuation, changes in word meaning and the position of key words in a sentence, the question arises as to whether these circumstances will prevail when a subject is left on his own when engaged in the coverage of material. Conclusions which have been drawn regarding growth in reading efficiency came as a result of experimentation with slow, normal, and rapid rates of reading, and to some extent in more recent years, with skimming. It is problematical if they pertain in the free coverage of materials, for it has not been shown wherein this free coverage process differs from the slow, normal, rapid and skimming types. A necessary next step then would appear to be an investigation of what actually goes on when an individual is presumed to be "reading" at the phenomenal rates claimed by individuals espousing and advocating special techniques. When types of evidence are produced which throw light on this exceptional coverage process, as has been done with the performances of individuals engaging in skimming, skepticism will vanish. Until such time, however, I am inclined to believe that the burden of proof rests with those making the claims. To date I have seen no objective evidence supporting current claims.

8. Speed Reading and Versatility

RUSSELL G. STAUFFER

Authorities are agreed that the mark of an efficient mature reader is the ability to adjust rate of reading to purpose, to the nature and difficulty of the material, and to the reader's experience and knowledge. This being the case, only the naive questioner will ask "What is your rate of reading?" or indulge in a controversy about skimming *versus* scanning *versus* reading. To do so is to invite a series of questions that become increasingly more complex and involved. To do so is to suggest also that purposeful skimming or scanning and the resultant adequate comprehension or attainment of purposes is not reading.

On the contrary, such questions as the following are legitimate: What is your rate of reading science? or history? or fiction? or mathematics? or biology? Or, what is your rate of performance when locating a single fact or literal answer in an elementary zoology text, an advanced chemistry text, a narrative digest, an exhaustive treatise on ophthalmology? Or, what is your rate of performance when seeking a critical interpretation of an elementary text on perception, or an advanced text on astronomy, or a Caldecott Award winner?

Contrast this with a query about rate of reading an article of 250 words about tree toads when comprehension is measured by ten true or false questions dealt with only after the selection has been read. Or, consider the situation in which the reader is given twenty multiple choice questions to study in advance of the reading of a 2000-word article on marine biology. What would be a satisfactory rate of reading in these circumstances? Or, to describe just one more situation, what is a satisfactory rate for reading *The Pearl* if the reader wants to obtain a substantial overview of the plot and its development? Should such a performance be labeled *skimming*, or *scanning*, or *reading* if rate is adjusted to the purpose of the reader?

It seems, then,—does it not?—that either one accepts the need for flexibility in adjustment and describes all conceivable circumstances, or rejects the concept and seeks a uniform rate of reading to be used regardless of the circumstances.

Snares to Avoid

Comprehension: If the concept of flexibility is accepted, one must avoid being caught in a comprehension snare. By definition, a flexible performance means a high rate of efficiency resulting in satisfactory attainment of the reader's purpose. Thus, if the reader's purpose is to obtain a substantial overview of the plot and development of a book like *The Pearl*, three measures of success are possible. First is the situation wherein the reader is satisfied that he has obtained his objective when he is finished. In such instances the validity of his attainment can in the final analysis be determined only by the reader.

Second, the reader may check the accuracy of his recall and evaluation by reviewing his knowledge with a person who is either an authority or is intimately familiar with the book. Now validity is checked against that of another person.

Third, after reading the story the reader may take an examination and obtain a percentage measure of his success. If this is done, the test must be valid and must be recognized as a device that will adequately measure a grasp of the story describable as a substantial overview of the plot and its development. Even if these conditions are met, authorities must have agreed in advance as to what percentage of comprehension will adequately meet the overview conditions—75%, 80%, or 100%

Speed: Similarly, one needs to avoid being caught in a speed snare. What rate of reading will be considered acceptable under the circumstances described above and contribute to high efficiency? A speedmeter clocking would require a standard of validity. On the one hand, authorities might agree that, if the standards of comprehension are met, to be efficient the reader should have operated at a certain speed, or word-per-minute rate. Or, speed validity might be determined by using the average speed of a group of selected efficient readers. If neither of these procedures is followed, acceptable rate may represent only an educated guess.

Speed Reading Estimates

Estimates of "speed of reading" as advanced by authorities are typically based on one or two types of standard tests. The Speed and Accuracy section of the Gates Reading Survey for Grade 3 (second half) through Grade 10[1] may be considered illustrative of one type; the General Reading Section of the Diagnostic Reading Tests, Survey Section,[2] may be considered representative of the other type. In the Gates test, all the items are adjusted to about a third-reader level of readability. Each item has about twenty-eight words and ends with questions requiring the reader to select one of four words. This represents one type of reading and might be defined by using the three facets that are a part of the flexibility of reading concept.

The General Reading Section of the Diagnostic Reading Tests is designed to measure a student's usual rate of reading interesting, story-type material with a generally simple vocabulary load. The General Reading Section of Form A of this battery has 131 lines and approximately 1700 words. At the end of three minutes the students are told to mark the number of the line they are reading. If they have not finished the article, they then do so and finally take a test of twenty multiple choice items based on the entire selection. This same battery has a test on rate in social studies material and rate in science material. The three different rates obtained reflect the reading circumstances set up by the tests and performance may vary because some attention has been given to one of the facets of flexibility—the nature and difficulty of the material. Again generalizations about rate flexibility based on scores thus obtained would necessarily be limited.

Rates obtained by means of the ophthalmograph may be discussed if it is kept in mind that the device represents an atypical reading situation. This clinically-useful instrument does provide information of a kind.

The average rate of comprehenesion in words per minute as declared by Taylor[3] in a study of eye movements of over 5,000 children range from about 180 at the fourth-grade level to about 340 at the college level. These rates are more or less typical of those usually quoted as base rates for students at these levels. Tinker says that published data on how fast one can read tend to be for reading fairly easy material. "For such material, 400 words per minute is very high for a seventh grade pupil; 600 words per minute is very high and 850 exceedingly rare for college students."[4] If one keeps in mind how these estimates were determined and limits their use to similar circumstances, they may serve a limited purpose. One may not, though, generalize from these circumstances and apply the rate figures indiscriminately to all reading situations. Neither may one, on the other hand, claim that rates that exceed the figures quoted indicate that the reader is doing only "partial reading" or "skimming." To do so is to reject the concept of flexibility of reading (purpose, nature and difficulty of material, reader's experience and knowledge). As already said, if the reader is accomplishing the purposes set he is accordingly comprehending all he wishes, and is achieving a quality reading performance.

As Tinker has stated on different occasions, ineffective eye movements do not cause poor reading; they are symptomatic of the central thought processes of perception and comprehension. He concludes that "the school teacher need not concern herself with eye movements in any of her work in teaching reading."[5]

How Fast Should a Person Read?

George Cuomo, writing in the *Saturday Review* about "How Fast Should a Person

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[1] Arthur I. Gates. Gates Reading Survey—Form 1. New York: Bureau of Publications, Teachers College, Columbia University, 1958.

[2] Frances O. Triggs et al. Diagnostic Reading Tests. New York: The Committee on Diagnostic Reading Tests, Inc., 1948.

[3] Earl A. Taylor. "The Spans: Perception, Apprehension, and Recognition." *American Journal of Ophthalmology, 44* (Oct. '57), pp. 501-507.

[4] Miles A. Tinker. "Uses and Limitations of Speed Reading Programs in Schools." *Speed Reading: Practices and Procedures.* Proceedings, University of Delaware Reading Conference, March 1962. In preparation.

[5] *Ibid,* Tinker.

Read?"[6] develops a sound, even though at times contradictory, point of view. He says the average adult reads at about 250 words a minute and claims this figure to be representative of the average he has found among college freshmen. He does not say whether or not these rate figures were obtained on "easy material," or what purposes the students had for reading.

Well along in his article—after discussing the figure-worshippers and the figure-haters, misconceptions about equating slow reading with quality, skimming versus full or specific comprehension, a so-called "base" rate that all people have, and setting a top rate of two thousand words a minute for most people—he does get around to saying that in actual fact some persons do not have a single reading rate. "He has—or should have—many rates." He goes on to say that to argue about speed reading is absurd because the term is meaningless.

If we agree that the concept of flexibility or versatility of adjustment is sound, we have to a large degree eliminated the "speed of reading" concept as a unitary trait. (The latter concept is not compatible with the flexibility concept.) That being the case we are in a position now to take a different look at a "base" rate of reading. A person who reads any kind of material, regardless of purpose, at a rate under 250 words per minute is most likely reading word by word. Invariably a person reading at such rates is using "inner speech," or saying the words to himself quietly. This limits his silent reading rate to his speaking rate. If he exceeds 250 words per minute and continues inner speech, he is not reading word by word but is skipping words, since obviously he cannot be saying all of them. Yet somehow he is seeing all of the words and is being selective since he uses inner speech on some words and not on others. The faster such a person reads using inner speech and skipping, the more skilled he must become at identifying key ideas and filling in the less relevant ideas by wise deductions and logical associations. Undoubtedly, to read this way requires the reader's full attention. He is so busy with the reading task—identifying key ideas, making sound deductions and fruitful associations—that he does not have time for wool gathering. As a result, comprehension scores tend to go up rather than down because the reader is so fully committed to the task at hand.

If, though, this "oral-visual" skipping pattern can be replaced by a complete "visual" reading pattern, the reading can proceed at the same fast rate as does thinking. Then the number of words per minute will become as irrelevant in reading as in thinking. After two years of experience with the Wood Dynamic approach to reading, it is my belief that "visual" reading can be accomplished and that there are many people who can be taught to read this way.

People who have well-established "oral-visual" inner speech habits of reading can, if they make diligent and sincere effort, replace these habits with "visual" reading habits. Experience with the Wood method has shown, however, that some people are so emotionally committed to their faulty reading habits that their struggle results more from rigidity of emotional adjustment than from attempts at acquiring new reading habits. Experience has also shown that the people who learn to do "visual" reading become highly proficient, versatile readers—who adapt rate to purpose and to the nature and difficulty of the material. We have learned, too, that any person who can read and understand may learn to do "visual" reading, and that this is true almost regardless of age.

A Research Report: To date at the University of Delaware, one carefully controlled study, using the Wood Dynamic Reading technique, has been partially completed. William Liddle, a candidate for the doctorate of philosophy degree in the University Behavioral Science program with a major in reading, used fifty University juniors and divided them into a control group and an experimental group. Each student was selected on the basis of college board scores and cumulative index.

During the fall semester of the 1961-62 school term, the experimental group received twelve weeks of instruction attending two class meetings weekly of one and one-half hours each. In addition, they were asked to practice one hour daily and come for extra help when they wished. The control group is being given the same instruction during the second semester.

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[6] George Cuomo. "How Fast Should a Person Read?" *Saturday Review* (April 21, 1962), pp. 13-14.

Four sets of multiple-choice test items were prepared for pre- and post-measurement. Two sets of test items checked fiction rates and comprehension, and dealt with Steinbeck's *The Pearl.*[7] Two sets checked nonfiction rates and comprehension, and dealt with Freedman's *Principles of Sociology.*[8] Each test covered approximately 8000 words in each book. The number of test items varied from 53 to 65. These tests were prepared and used to provide the readers with material of such a length as to allow them to perform at rapid rates. Using the Kuder-Richardson Formula 20, reliabilities of the experimenter prepared tests were obtained:

Pre-fiction	.66	Pre-nonfiction	.51
Post-fiction	.69	Post-nonfiction	.46

These reliabilities, while not high, are the result of a single test administration and are considered adequate to predict significant differences in behavior for groups.

In both fiction and nonfiction the mean rate of the experimental group was significantly greater than that of the control group at the end of 32 hours of instruction. In comprehension, in nonfiction there were no significant differences between the two groups. This suggests that the increase in speed did not affect comprehension of the experimental group. On the fiction tests there was a significant difference in comprehension in favor of the control group. The mean percent score for the experimental group was 69% and for the control group was 81%, the mean difference in rate of the experimental group was over five times as fast as that of the control group.

Illustrative of the range of rate performance are the following extremes:

	Words Per Minute	
	Experimental	*Control*
Pre-fiction	241- 800	230-965
Post-fiction	843-4475	225-968
Pre-nonfiction	169- 361	186-667
Post-nonfiction	543-2711	144-528

Of interest is the fact that the post rate on nonfiction represents a triple reading rather than a single reading. For reading nonfiction, or for study-type reading, students were instructed to make a survey and then to read and reread until they felt comprehension was adequate. Undoubtedly this kind of reading reduced the nonfiction rates but undoubtedly, too, it resulted in higher comprehension scores.

This semester we are conducting a pilot study of another kind. Seventy-four freshmen exempt from second semester English because of quality of performance in English the first semester are being used. An adaptation of the Wood Dynamic reading method is offered as a three credit course. To meet requirements, students are asked to read a minimum of fifteen books selected by the head of the English department. This plan will be repeated next year using a control and experimental group. Results obtained thus far show substantial increases in rate.

Conclusion

It may be that as Cuomo speculates, all people have "base" rates and that the reader with better base rates may move up to a thousand words or more. Likewise, it may be that many people can be taught to break the "oral-visual" barrier and learn to do "visual" reading at rates far in excess of what has been thought possible to date. If this is true, and it seems to be, people with high rates of "visual" reading trained to be flexible, versatile readers may achieve a reading efficiency far beyond anything imagined. Being hemmed in by rate figures obtained from eye-movement studies and by rates that reflect the monarchy of rhetoric and print has resulted in the figure-haters' concern about "speed" reading. Needed, it seems, is a placing before the public the common sense of the "speed" reading circumstance in terms that are plain and frank, so that enough people will call for the change that can be brought about. Needed among professionals are improved communications, the avoidance of fixed opinions based on inconclusive evidence, and open-mindedness by those who have vested interests. This is not the time for sniping and snapping but for more and better research. We must decide whether or not literate man is capable of reading faster than he can talk, faster than he can cleverly assemble ideas by skipping and snatching, and whether or not he can read at a rate that is as fast as his ability to think.

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[7] John Steinbeck. *The Pearl.* New York: Bantam Books, by arrangement with Viking Press, Inc., 1947.

[8] Ronald Freedman et al. *Principles of Sociology.* Revised Edition. New York: Holt, Rinehart & Winston Co., Inc., 1961.

9. Controversial Issues in the Teaching of Reading

WILLIAM J. IVERSON

I should like first to treat the criticism directed at content. It has long seemed to me that a clarification of this problem is overdue. In the first place, we ought not to assume that reading instruction should be conducted primarily through literary material. Most of the learnings of the school are not taught through literature but through exposition. The social sciences are not stories, neither are the natural sciences, and certainly mathematics is not fiction. The literary mode of communication is not a dichotomy apart from the expository, but it is at least a considerable distance. In literary material the desideratum in response is imaginative elaboration. The reader should add much which is uniquely his own creation while remaining true to the spirit of the writing. Any reader who reads a story, a play, above all a poem, as if it were purely exposition surely robs literature of its primary impact. For in expository material ideas must be captured and patterned exactly, not brushed and diffused fancifully. The rubrics of logic are basic to exposition. Literature is not primarily an exercise in logic.

So I am suggesting that we shall come closer to a resolution of the issues about quality of content if we place the literary in balance with the expository. Then we ought to decide more clearly and more reliably than we have what are the qualities of the values, ideas, emotions, or processes, we wish conveyed at successive levels of reading. Obviously judgments in these matters have been made over the centuries. But I plead both for greater clarity and firmer verification.

Let me refer to literature. It is not enough to choose literary material by selecting only standard authors. In the first place there is disagreement about who is "standard" for what level. In the second place, to deny recognition to authors whose reputations, despite the merit of their writing, are yet to be made is to kill future literary effort. In the third place, judgment that this author communicates these values, ideas, emotions, which we deem desirable at a given level of reading maturity should not be mistaken for verification that the communications ever arrived. Nor should analyses by readability formulas be considered anything beyond gross, first screenings. Genuine verifications will have to come by trying materials with children to determine whether in fact criterion levels of success in receiving communications were achieved.

And now let me refer briefly to exposition. Exposition is the basic mode of communication for most of the schools' curricula. If expository materials were used in balance with the literary for teaching reading, what might we hope to gain? We might hope to gain facility with the basic problems of logic. The same logical processes pertain to many fields. Deduction, induction, analogy, to name just three patterns, are employed not only in the natural sciences, but in the social sciences and mathematics as well. If the reader learns to recognize with increasing sophistication a good piece of logic through his reading instruction, he can put this patterning to work in initial access and in cumulative development of the qualitatively different ideas particular to the several disciplines.

Please note that I recognize some exposition is now included in reading instruction. But I am suggesting a criterion for selection which has not been constantly used. The pieces of exposition should be programmed because they represent a pattern in logic and because they permit increasing sophistication with that pattern. Obviously the same needs for clarity and verification in programming suggested for the literary apply to the expository.

Now I should like to turn to the issue of extent of vocabulary. I believe that vocabulary can only be discussed fruitfully when the prior considerations of appropriate literary and expository content have been satisfied. Once it is clear which values, ideas, emotions, or logical processes are appropriate for a given level of reading development, we can search for the selection with a tolerable vocabulary burden. I do not believe, even in the very beginning reading instruction, that the process ought to be reversed. I do not think it wise to select vocabulary and then try to contrive a communication. It may well be that some further preparatory work in developing vocabulary may have to be undertaken before a desired reading can be undertaken. But I see no reason why we should dismiss this kind of preparation as undesirable on some *a priori* basis. We ought to try to learn by experimentation what in fact does ensue. Certainly a kind of interplay between content and vocabulary will immediately enter. A selection judged to have appropriate content might turn out to have an excessive vocabulary load. But the excessiveness ought not to be assumed without empirical verification. Only in this way, I think, will we ever come closer to agreement in the debate about vocabulary control.

Now I come to the target in reading instruction toward which the most violent assaults are directed, that is, of course, methods of teaching.

Let me begin with beginning reading instruction. In the 1942 decade the cries seemed to register in somewhat fewer decibels than the sounds I hear currently. There were some grumblings about reading readiness and some noises about reading in the kindergarten, but they were hardly deafening. They may not even be deafening now but they are at least considerably amplified.

I should like to comment upon these related, but somewhat distinctive, criticisms. I suppose no critic, earlier or now, really denies the necessity for respecting the difference in potentiality for beginning to read. It is the components of the necessity upon which attack centers, And it is what is done in meeting any accepted necessity which is at issue. We shall never resolve either of these debates without better means of assessment than we now have. What are the roles played in a given child of age, sex, intellectual factors, physical capacities, experience, language, emotional and social resources? I shall be bold enough to say that while we know something of the roles played in a general way, we do not know with sufficient specificity what the significance of the interplay among these factors for a given child may be. And, of course, if my statement is defensible, we are hard pressed to defend in detail what we do for a given child. I am not suggesting for a moment that we abandon the concept of reading readiness nor programs designed to promote this readiness. I am saying that the concept needs better definition and the programs need verified relevance.

That brings me to the related matter of teaching reading in the kindergarten. Entrance to the schools is determined by age. And chronology is at best a gross criterion. If reading readiness were better defined and if readiness programs had verified relevance, we should not have ended the debate. Beyond the query "Could this child begin to read in kindergarten?" remains the larger question: Should this child begin to read at this point in his school career? Is ability to read on the face of it the *summum bonum* for any child in the kindergarten? Or do value considerations enter? And who is to choose if there are value considerations? I do not have the temerity to answer the questions I have posed. I leave them to braver souls.

Once instruction in reading has begun, we are ready to enjoy the quarrel about who gets taught where. Shall we have an entirely individualized reading program? Or shall we have entirely grouped instruction? Or shall we have some combination of the two? The debate on this matter has been largely confined to the profession. I think the lay critics are saving their participation for a rainy day. But while up to now the argument has been almost entirely among the brethren, it has been no less heated because it has been within this normally sedate province. I have tried to view the arguments and the evidence with the impartial eye I wish I had. It seems relatively safe to say at this time neither side's arguments or evidence are wholly persuasive.

The argument, of course, does not cease when we have discussed who gets taught where. It ranges immediately into who gets taught what. For example, what kinds of comprehension shall be fostered? The new work in programming learning may have much help to offer in time. We badly need to know more clearly what are first, second, and succeeding levels of understanding appropriate literary materials. We need equally desperately to know more precisely what are increasing levels of appreciation. And, of course, we need to know whether in fact it would be wise to seek a new balance between literary and expository materials. And, if it did appear to be wise, we should have to learn how to program for this kind of comprehension.

Then, having decided these matters, we could enter that lovely arena of acrimony which has to do with how fast shall these understandings be managed and with what factors influence this speed. I suspect a considerable amount of refinement of the discussion will have to be achieved before we can expect any resolution of the issues at all. Can we speak profitably of rate of comprehension in general? Or must we speak of rates of comprehension in literature, in the social sciences, in the natural sciences, in mathematics? And, even within a discipline, can we avoid specifying the breadth and the depth of the comprehension desired? Would we have to specify rate of coping with trends, analyses, themes, generalizations—hence ideas broad in scope? Would we have to specify rate of dealing with names, places, events—hence, ideas narrow in scope? Would we have to speak of rate for good, clean unsullied repetition—hence, understanding superficial in depth? Would we have to label rate of judgment, evaluation, appraisal—hence comprehension great in depth? I am sure there are other refinements of the discussion which might be undertaken, but surely something of this order is needed if we are to talk about "speed reading" sensibly at all.

Now that we have comprehension in good order and at the speed of light, we can enter into discussing the raw material of thought: the word. The bloodiest of all the battles are fought about how to teach word recognition. The fight is lustiest at the beginning to read stage. I do not expect to have strength to go beyond that level.

Of the five clues to word recognition, besides the dictionary, the one attracting the least combat appears to be the pictorial clue. There are some complaints about the quality and the over-abundance of illustration in materials for reading instruction. But not much argument ranges about the picture as an ancillary clue to the word in the text. It seems to be accepted that the pictorial clue is an aid and not a basic access to the word itself.

When we move to the text, however, we can find avid disagreement with no trouble at all. Is a word a creature of textual circumstance? How useful a clue is context? And how should use of context in the recognition of words be taught? Many critics attack the use of context as inviting "guessing." Furthermore, it is frequently alleged these are random stabs which tend to cut out more systematic clues. I do think myself that in teaching context clues further emphasis is needed on thinking through the text so that meanings are chosen systematically and logically. And I do think we might well have experimentation to see whether use of context does tend to cut out other clues rather than tend to encourage using clues in concert playing one against the other to get the proper harmony of meaning. The work in linguistics also has much more guidance to offer on this point than we seem to have used.

Once the resources of context have been exhausted, we are upon the word itself. First, there is the word as a visual configuration. This clue to word recognition is sometimes called "look-and-say," and I need not tell you the term can provoke bloodshed at forty paces. As we all know, the majority of the reading instruction material employs some sight words, that is, words taught as visual configurations. These words are used as basic elements for simple statements and as vehicles for teaching the remaining two clues: structure and phonics. The most recurrent charge alleges that this temporary expedient is permanently damaging. As in the case of the use of context, this kind of clue is said to blot out the use of more systematic clues. The young reader, it is charged, becomes habituated in leaping into recognition on the basis of configuration inadequately scrutinized. If he were trained to employ always in first priority structure and phonics, it is declared, he would not make such mistakes of hasty and inaccurate recognition. These charges and countercharges will go on forever so long as they are conducted on a rhetorical plane. They may not end even if we try to transfer the disagreement to researchable hypotheses. But it is worth trying.

This brings us to structure. I did not sense in 1952 and I do not sense now much argument about the use of parts of words, prefixes, roots, suffixes, inflections, syllables, as clues to word recognition. Nevertheless, I do not advocate resting on this point. The kinds of morphemic analyses made by the linguistic scholars have not been employed systematically in reading instruction. We ought to begin to try.

Finally, I come to phonics, the choicest source of mayhem of them all. As you all know, it is an ancient agent of acrimony. It has been with us as an invitation to battle as long as we have had instruction in reading. I remind you of this so that you will not expect a few well-chosen words to bring peace to the long war.

The arena of argument about phonics does seem to me to have shifted somewhat in the last ten years as contrasted with the earlier period of 1942-1952. Earlier many of the critics charged that phonics were not taught at all. Now the attack has shifted. Phonics, it is now charged, are taught but taught the wrong way. The essential sources of disagreement are these:

1. Should the phonic skill be taught through phonemically regular words without much attention to content and syntactical patterning? Please note, first, that this approach uses whole words and is analytic, not synthetic. But the words are not sight words chosen primarily on a content basis but selected for phonemic regularity. The present typical sight words used in the first books are not entirely phonemically regular. Please note, second, that the primary persuasion to attempt the analysis must derive out of making the sounds of a recognizable word and out of whatever content reinforcement the word alone arouses. Some who have thought about this problem long and hard believe that this persuasion may be enough. At any rate the idea should not be dismissed without empirical validation or invalidation. Bloomfield,[1] the eminent linguist who originally proposed this system of initial instruction through phonemically regular words, apparently convinced himself the reward of making the sound of a recognizable word and whatever content that word aroused would not be enough. So he early made sentences for practice reading out of his phonemic regulars. The trouble is that his phonemic regulars do not suggest very rich content even in the most ingenious syntactical arrangements. In fact, to use a phrase authored by one of my students, the content "totters toward torpidity."

At any rate the issue remains would it be better to teach the phonic skills through phonemically regular words either relying on the motivation of word solving alone or tolerating somewhat contrived constructs with the word solutions?

2. Should the phonic skills be taught entirely synthetically? That is, should children never be given sight words, or even complete words as suggested by Bloomfield, but put together sound elements to make words from scratch?

3. Should the phonic skills be taught through sight words but with a much greater density in number of sound elements employed in beginning instruction?

4. Whichever of these three proposals is accepted, what sequence in teaching phonemes should be followed?

For example, we now start with beginning consonants. But Bloomfield begins with vowels immediately. What is the optimum sequence?

At the present state of knowledge about phonics, I have my own preferences. But I would welcome carefully devised experimentation which might clarify, if not entirely resolve, the issues which I have stated and others which could be posed.

Now I am at the end of my discussion. Any of the knowledges we gain about the act of reading will also present problems in evaluation. How will we know when changes are introduced what effects they are having? And if we change reading instruction as we resolve some of the issues discussed, we shall be in even more serious need of better means of appraisal.

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[1] Leonard Bloomfield and Clarence Barnhart. *Let's Read: A Linguistic Approach.* Detroit: Wayne State University Press, 1960.

10. Ivan and Johnny—A Critical Review

ALBERT J. HARRIS

The book *What Ivan Knows That Johnny Doesn't* by Arther S. Trace, Jr., (6) could have been a major contribution to comparative education. Instead, it turns out to be so unreliable that even those of Trace's criticisms that may have a sound basis become suspect.

Dr. Trace's book attempts to compare American with Russian education in the fields of reading, literature, foreign languages, history, and geography.

The author states very clearly that his purpose is to show that instruction in these basic subjects in American schools is poor not only in comparison with Soviet educational practices, but also that it is poor by any standards. This review will attempt to appraise only those parts of the book that are concerned with the teaching of reading and literature.

He chooses to base his conclusions almost entirely on an examination of textbooks used in the two school systems. He states: "If a student's textbooks are excellent he may be able to get an excellent education indeed if he has good teachers and if he studies hard; but if his textbooks are poor, his education is bound to be correspondingly poor no matter how excellent his teacher may be or how hard he studies."

The comparison of textbooks is a potentially valid basis for comparing curriculums if—and if is a big word—the course of study is based mainly on study of the textbooks, and other materials and learning activities are of minor importance. It may well be that in the early grades of Russian schools the reading textbook is all that needs to be considered. This may be true in some American schools also. But in a very large number of American schools the basal reader is only part of a broad and rich reading program that includes planned emphasis on reading for information in a wide variety of sources, and a planned recreational reading program which is based on effective use of classroom and school library collections. Indeed, schools and teachers who are using a highly individualized approach in reading instruction usually make little or no use of basal readers.

It seems strange that Dr. Trace does not once mention the possibility of judging the worth of an educational program in terms of its outcomes. He seems, however, to be content to rely entirely on a comparison of instructional materials, apparently assuming that there must be a direct and simple relationship between stimulus and response. Would that it were so simple!

Dr. Trace also manages to ignore both the fact that children grow and develop and the fact that individual differences in learning ability are real and important. He does remark that Russian children are started on reading at the age of seven and are a year older than American children in each grade, but disregards this when he makes comparisons grade by grade. That there are marked differences in rate of mental growth and brightness is not mentioned at all, nor is there any recognition of the possibility that a reading diet that is stimulating and challenging to a bright child might give mental indigestion to a slower youngster.

Actually, Dr. Trace's main contention seems to be that the more one exposes a child to, the better the outcome must be. Thus, in comparing Russian and American basal readers, Dr. Trace considers the most salient fact to be the larger vocabulary of the Russian readers, to quote: "Whereas the fourth-grade *Rodnaya Rech* reader has a vocabulary approaching 10,000 words, most American fourth-grade readers have a vocabulary of well under 1,800 words" (6, p. 18). He states that American children acquire a knowledge of only about 1,000 words from third-grade readers, and asserts: "No students can acquire a vocabulary of more than 1,500 words from a fourth-grade reader that has a vocabulary of no more than 1,500 words."

Dr. Trace has greatly underestimated the vocabularies of American basal readers. According to a recent survey by Groff (4), the median third-grade basal reader vocabulary is 1,469 words. This is about 50 per cent higher than Trace's estimate; not one series has a vocabulary as small as his figure of 1,000 words. Fourth-grade vocabularies are similarly underestimated; the Scott, Foresman series, for example, lists a total of 2,742 words through the fourth grade, in comparison to Trace's estimate of 1,500 words.

Embedded in the comparison of vocabularies is the very different structure of the two languages. Russian is a highly inflected language, resembling Latin in this respect, in which a word root takes on many shades of meaning as one or another of many different endings are attached to it. An ordinary verb, for example, is likely to have over sixty different variants which indicate its mood and tense and the number and gender of its subject. A corresponding verb in English has only five or six variants. Whereas English uses a number of little words over and over as prepositions, articles and conjunctions, the Russian equivalents of many of these are provided by suffixes.

The vocabulary counts for American basal readers do not usually count variant or inflected forms. The Scott, Foresman fourth reader, for example, requires eleven lines of fine print to describe the kinds of variants that are not counted as separate words. If these variants were counted, the total vocabulary in this fourth reader would probably be between 3,000 and 4,000 words.

Dr. Trace does not indicate the source of his figures on the size of vocabulary in Russian readers. The round numbers that he uses—2,000 words for the first reader, 4,000 for the second grade reader, 7,000 or 8,000 for the third grade reader, 10,000 for the fourth grade reader—sound more like rough estimates than like totals based on an actual count. He does not indicate whether or not inflected and derived forms are counted separately; from the structure of the language, it seems likely that they are.

In all probability, Russian readers do use a somewhat larger vocabulary in each grade than American basal readers. However, if an accurate vocabulary comparison were to be made, the difference would certainly be far smaller than Dr. Trace wants us to believe.

Dr. Trace devotes very little space to methods of teaching reading. The Soviet system is described, in one paragraph, as a phonic system in which children start by learning in sequence all the letters of the Cyrillic alphabet and their sounds, and in a few weeks are reading sentences and paragraphs. For a more adequate account of how the Russian child learns to read one has to turn to Hildreth's recent article (5).

His explanation of American reading instruction, similarly brief, takes it for granted that the "whole-word" or "look and say" method is standard, and that this requires children to memorize separately the shape of every word form. He recognizes that there is some instruction in phonics. There is no acknowledgment, however, that a slow introduction of phonics can provide any independence in word attack, and the assumption is maintained that American children can recognize only the words they have been specifically taught. This unwarranted assumption has been thoroughly demolished in recent papers by Gates (2, 3).

It came as a shock to this reviewer when he finished Dr. Trace's book and suddenly realized that nowhere in the book was there a single statement to indicate that Trace has ever looked inside a work that explains how reading is supposed to be taught in American schools, either a textbook for college courses in reading instruction or a manual that accompanies a basal reader.

Dr. Trace goes into considerable detail to compare the contents of Russian readers with those of American readers and finds the content of the Russian books to be far superior. In making these comparisons he has relied mainly on the tables of contents of the various books, although he has evidently read some basal readers for the primary grades.

His big complaint is that good literature is prominent in the Russian readers and markedly absent in the American counterparts. He points out that selections by outstanding Russian authors such as Tolstoy and Pushkin occur as early as the first reader and make up a substantial part of the third and fourth grade readers.

His criticism of the literary content of American basal readers is severe. He states: "The selections in elementary school readers for the early grades deal chiefly with cardboard boys and girls who participate in trivial episodes involving mommies and daddies, baby sisters and visiting aunts, grandfathers who own farms, mailmen, corner cops and corner grocers, and other assorted people in a hypothetical and sterilized community." He attributes this partly to excessive concern for vocabulary control, which he despises, and partly to "a theory of education which proposes that the schools must teach students to adapt themselves to their immediate community environment."

Implicit in his comparisons are certain assumptions. One is that anything written in a limited vocabulary must necessarily be inferior. Another is that anything written by an author of established reputation must be meritorious and anything written by an author unknown to Dr. Trace is inferior. No consideration is given to the relation of style or content to the interests of growing children, to their general language development and maturity, or to their ability to understand and comprehend.

Dr. Trace seems to take it for granted that exposure to adult literature at an early age is necessarily effective in producing both understanding of literature and a love for it. Experience in this country suggests otherwise. We have whole generations of adults who have never read any Tennyson after exposure to *Idylls of the King*, any George Eliot after *Silas Marner*, any Scott after *Ivanhoe*, any Shakespeare after *Macbeth*. How and when and to whom one teaches such materials is important, and early introduction is not necessarily wisest.

Nevertheless, one cannot dismiss Dr. Trace's criticisms of the content of basal readers as entirely unfounded. He is not the first person to criticize reader content, and certainly will not be the last. Unquestionably the content of many readers can be improved and should be.

In his final chapter, Dr. Trace makes some recommendations for improving reading instruction. He sees possibilities of enriching and improving the reading program only through upgrading the basal reader. He wants the vocabulary of basal readers to be greatly increased, the sheer amount of the content enlarged, and the literary quality greatly improved. This has, at least, the virtue of consistency with his earlier statements. Like them, these recommendations assume that input determines outcome and that the only materials that count in the reading program are the basal readers.

In this review, Dr. Trace has been shown to have confused input with outcomes, to have ignored the facts of child development and individual differences, to have distorted and misrepresented facts, and to have learned very little about the methodology of reading instruction. It is depressing that his book has been taken seriously by some reviewers. Discriminating readers can hardly fail to notice its flaws, and are unlikely to accept its conclusions.

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PART V

Special Interest Institutes

1. Neurologic Correlates in the Reading Process

Edward H. Senz, M.D.

RECENTLY, there has been a great surge of interest in the neurology of childhood. Regrettably, our understanding of learning and behavior as they relate to the nervous system is rudimentary. The human nervous system is inordinately complex, and its complexity is only beginning to be understood. Our measurements of brain function are crude and open to more than one interpretation. Arguments still rage as to whether higher intellectual processes are a function of the brain as a whole, or of specific parts of it.

In order for a child to learn, he must react appropriately to stimuli. He must recognize pertinent stimuli, reject competing stimuli, fix his attention on a pertinent stimuli, track and scan the pertinent stimuli, recall information stored in his nervous system, and then react adaptively. All this must take place in a few milliseconds. It is not remarkable that some children cannot do this efficiently; it is remarkable that most function as well as they do.

It is not difficult to find children with gross defects of the nervous system who have problems with learning. Of greater concern to educators, and increasingly to physicians, are children who have no gross or obvious neural defects, but who may have learning disability based on subtle neural imperfections. As you know, there is a frustratingly large number of school children who resist the educational process. It is becoming increasingly popular to diagnose such children as being "brain injured," "neurologically handicapped," or something similar.

Communication is difficult in this field, because the terminology is inexact and used inconsistently. The important question is: Are there a set of symptoms, patterns of disordered behavior, learning impairments, and failures of adaptation which are sufficiently characteristic in themselves and occurring in a normally intelligent child without obvious physical defects, which allow us to infer and predict, regularly and often, the presence of organic, non-psychogenic brain disease?

Information derived from studies of adults with brain disease is of little value, and actually may hinder us, when dealing with young children. There is no simple screening test which will identify the organically damaged child with accuracy. In most cases, diagnosis requires a variety of examinations and a detailed analysis of all available information by a group of specialists, preferably functioning as an organized team. A final diagnosis of brain disease is the responsibility of a physician, and cannot be delegated to others.

A proper diagnosis is a dynamic one, which explains the nature and genesis of a disability, and implies a prognosis and a treatment. Too many so-called diagnoses are merely a restatement, in technical jargon, of the presenting problem. I am skeptical of much of the current talk about the "brain damaged" child, because the theories and concepts involved disregard certain facts altogether, and fail to explain other facts. I want to discuss some of these discrepancies.

1) Boys are affected 10 or more times as often as girls by the problems under discussion. This is hard to reconcile with theories of brain disease. It is hard to postulate a sex-linked recessive characteristic, since in later life this sex ratio does not persist as it should if these boys had some sex-linked disease.

2) Proponents of "brain damage" theories often fail to take into consideration the tremendous variation in normal child development. Special functions of the nervous system mature at different

rates in children of the same intellectual classification. We are accustomed to great variation in the appearance of special functions such as walking, talking, and bowel and bladder control. Why, then, are we often unwilling to recognize that not all children are ready to learn school subjects by 6, 7, or 8? May this not be simple developmental lag, with no pathological significance? May it not become pathological simply because of parental and school attitudes toward the slow-maturing child?

3) A substantial, and probably increasing, number of school children are at the lower end of the normal I.Q. scale for innate biological reasons—these are the so-called "dull normal." There would seem to be no need to embellish the matter of poor learning in these children with assertions of "specific learning defects" and "brain damage." I doubt the usefulness, for educational purposes, of distinguishing between the mentally retarded child who has had damage to a previously normal brain and the mentally retarded child who never had a normal brain.

4) Few long term studies of non-learning children are available. Those that are available do not seem to prove very much, because they are uncontrolled, and because the subjects were not adequately diagnosed in the beginning.

5) Many grossly brain damaged children do not have the learning and behavioral problems being attributed to "minimal brain damage."

It is very difficult, except in extreme circumstances, to correlate disease and disability. Usually, the amount of disability is determined more by the kind of person injured than by the injury itself. Identical body defects may render one person useless for life, while another person finds them merely an annoyance. This consideration brings me to my greatest objection to the "minimal brain damage" concepts.

6) Attempts to explain learning and behavior disability on the basis of "brain damage" alone revive some fictional dichotomies, such as heredity vs. environment and organic vs. psychogenic. A human being is the product of specific biological factors and specific environmental forces. Infinite variation is possible. Each factor or force sets limits within which the other operates, but neither determines by itself the final product, except in rare and extreme instances. Children, normal or abnormal, do not grow up in a vacuum. The final form of most children's disabilities is as much an expression of environment as of specific organic factors. Many examples could be cited. Even such a thing as cultural sex role can be shown to be determined more by environmental influences than by genes or hormones.

I have come to the conclusion that the diagnosis of "minimal brain damage" is more often an act of faith than an act of reason. It often results from a lack of study of the total life situation of the child. I feel that all of these considerations make it unlikely that many "reading problems" in otherwise normal children will be found to be due to specific organic factors alone.

Nature guards her secrets jealously, and no magic answers are available. We must continue to plod along, studying our case material, avoiding pretensions to knowledge that do not exist, attempting to communicate with each other, setting realistic goals for children, and encouraging experimentation.

Handicapped children often struggle for independence and engage in their own experiments to gain it. Many formal programs thwart these natural strivings of the children, without offering something that can be proved to be better. Many programs for handicapped children treat parents with inadequate interest and respect. A change of emphasis is in order.

I would like to close by quoting one of my educational heroes, Dr. Robert M. Hutchins, who attributes the quotation to William the Silent or Charles the Bold: "It is not necessary to hope in order to undertake, nor to succeed in order to persevere."

2. Psychological Correlates of the Reading Process

KATRINA DE HIRSCH, L.C.S.T.

I shall try in this paper to discuss some of the structures and processes involved in the reading act in the light of Gestalt psychology. I shall then try to apply some of the general concepts to children who are learning to cope with printed words.

Definition

Reading is the successful response to the visual forms of language. The goal of reading is the understanding of graphically fixed language units.

Visual Aspects

Reading is obviously more than and different from seeing. More is involved than simple ocular functioning. The visibility of letters is not the same as their readability. Dyslexic children do *see* letters but they do not grasp their symbolic significance. Reading is not only a matter of perception, it is, in the last instance, an intellectual act.

There are, of course, some reading disabilities which are related to visual problems. Robinson and Cleland refer to farsightedness and lack of binocular vision, to difficulties with visual fusion and depth perception which contribute to reading problems.

The 1940 report of the Los Angeles County Medical Association takes a different stand. "Only if visual acuity is reduced to 50% or more will the child have trouble with interpretation of symbols he does not see well. Except in farsightedness of a marked degree, the child's power of focusing is sufficient to give adequate but not perfect vision. Crossed eye with normal vision in one eye has little effect on reading ability."

The discussion whether or not faulty eye movements are responsible for reading difficulties is still going on. Orton and Tinker deny the significance of faulty eye movements in the etiology of reading disorders. Research has shown that the difference in number of eye fixations in excellent and poor readers is surprisingly small. The Los Angeles report quoted above says: "So-called faulty eye movements as judged by regressions depend primarily on poor understanding of subject matter, not on uncoordinated eye muscles, not the eye but the brain learns to read."

Kainz also maintains that the number of eye movements is a function of ability to grasp meaning and not the other way around. In other words, visual processes in reading are largely of a central rather than of a peripheral nature.

Cortical Functions

Earlier concepts of the central processes pertinent for reading have undergone considerable modification. Neurologists no longer believe that precisely pinpointed brain areas are responsible for specific performance. We do know that in lesions of the angular gyrus the interpretation of printed material is impaired or lost. We also know that the areas adjacent to the angular gyrus do subserve processes involved in reading. However, we no longer believe that we deal with separate and summative cortical excitations. Rather, we assume the existence of highly complex activities involving the whole brain. We know that in aphasic patients who suffer from severe receptive speech disturbances, reading is often impaired as well.

Release of Meaning

The fact that in cases of language pathology loss of speech is usually accompanied by difficulties with reading comprehension has important implications. For the beginning reader the visual and the auditory structure of the word are intimately bound up with each other and the graphic sign has to be translated silently or aloud into auditory verbal form. The printed word "mat"—a series of letters seen — a sequence in space — is transformed overtly or in inner speech into a series of sounds heard — a sequence in time—which in turn release the concept of "mat." Schilder found an increase of electrical activity of the vocal muscles in slow readers.

While Kainz believes that the highly skilled reader proceeds directly from the printed symbol on the page to the underlying concept, that the written word itself is a carrier of meaning, many studies show that even the fluent reader evokes the auditory and motor images symbolized by letters, but that these images are so fleeting and of so short a duration that the individual is not necessarily aware of them.

Even the practiced reader will resort to vocalization when he meets an unknown word or tries to understand a difficult passage. Inner speech phenomena are probably never entirely eliminated. How many vocal clues are needed may be a matter of reading proficiency.

Partial Performances Involved in the Reading Process

However, evoking the auditory image of the word during reading is only part of the total performance. Kainz, in analyzing the reading process, finds a number of partial performances: there is the perceptual grasping of letter and word configurations, there is their evocation in inner speech, there is the comprehension of syntactical relationships, the construction of anticipatory schemata as to what the sentence is going to say, there is finally the assimilation of content into an already existing framework. All of this constitutes an integrated performance, each part influencing the others. It is only in unsuccessful reading experiences — as when someone reads a text aloud but does not grasp its significance — that one can separate out partial performances.

Global vs. Synthetic Reading

One of the basic problems in reading research is the question whether the skilled reader adds letter to letter or rather sound groups to sound groups in order to comprehend the word, or whether the printed word is experienced globally. An answer to this question is obviously pertinent in terms of the battle now raging between the people who teach reading in a global fashion and those who believe that words should be broken up into their phonetic elements and then blended into larger units.

The philosophical foundation for the global approach is based on Gestalt psychology, and it is thus imperative to discuss briefly how this theory influenced the different systems of teaching reading.

Some Gestalt Concepts

Gestalt psychology, as originally conceived by Wertheimer, defines Gestalt as that function of the organism which responds to a given constellation of stimuli as to a whole. There is an innate tendency in human beings to experience whole configurations. We respond to a given series of separate musical tones as to a tune—a melody—even when it is transposed into a different key. The single element—the separate notes—are different, but the essence of the configuration stays constant, the "figure" as Wertheimer calls it, the tune, in this particular case—remains the same. We respond to an arrangement of pencil strokes as to a square even if the square is presented at a different angle. As defined by Gestalt psychology, visual forms obey certain laws:

1. Form is characterized by being separated and standing out from the ground.
2. The whole and its parts mutually determine each other's characteristics.
3. The various parts of a form have different values, some are indispensable if wholeness is to be retained, others are relatively unnecessary.

These are only a few of the Gestalt laws.

Application of Gestalt Concepts to Reading

The original Gestalt experiments were done with simple visual forms like circles and squares. Although letters are, of course, more complex—quite apart from the fact that they have symbolic significance—much of what is true for simple forms, is also true for letters and words. We do not see all the single elements in a word, we see its characteristic features. Words have a physiognomy, derived from the particular relationship between the whole and its parts. This physiognomy makes it possible to recognize these words, no matter whether they are printed large or small, black or red, whether the print is good or relatively poor. We know that if one tears a word apart and prints it in separate syllables it takes 66% longer to read, because, as a result of the syllable division, the Gestalt quality gets lost. In one of his experiments Korte presented words from a long distance so that they were at first quite indistinct and diffuse. The first impression of the word was a global one, including Gestalt qualities like length, density, and so forth. The second phase of recognition began with the moment when characteristic details were recognized as physiognomic and as definitely influencing the total Gestalt.

Because fluent readers are global readers, educators and psychologists have concluded that the best way of learning to read is by the global approach. However, it is only the proficient reader who sees words in a structured and organized way. The beginning reader does not—his ability to differentiate and to integrate is as yet undeveloped and as a result he often cannot cope with long and complex configurations in the form of words. Shorter configurations as represented by letter and letter groups are often easier to take in for the beginning reader. A letter, of course, is a Gestalt also, a partial Gesetalt it is true, but possessing, nevertheless, the same qualities as do whole words. We see the single elements in a letter as little as we see the single elements in a word—we only see characteristic features which enable us to recognize the letter as such—whether printed in black or in red, written in one handwriting or in another. Like a word, the letter also has a Gestalt in the sense that it is separate, that it stands out.

What it amounts to is this: There is no essential difference between the recognition of letters and that of whole words. The process is the same: letters as well as words are grasped on the basis of their determining features. Proficient readers tend to take in more complex Gestalten, but even if they grasp them as wholes, they still must be able to analyze them quickly and reliably into their elements. Reading requires both integrative and analyzing competence.

Thus, the dichotomy between the reading of parts and the reading of wholes is largely an artificial one. In normal reading the grasping of complex configurations and the integration of partial ones goes forward simultaneously. It is the combination of both which makes for good reading. The approach depends largely on the age of the reader and on the reading goal. A research paper is read differently from a light novel. When one has to read a large number of newspapers one takes in only the essential words. However, the beginning reader is unable to "skim"—this is a technique he still has to learn. Integrative and differentiating functions develop only slowly. In the light of this statement what happens to the young child who is first confronted with the printed word?

Reading Readiness

Reading readiness is a much discussed concept and has numerous facets. Language growth—and reading is one aspect of such growth—is closely related to the emotional climate of the home. The quality of the mother-child bond is a significant factor in early ego organization and basic to verbal communication.

Some children fail in reading because of severe psychopathology, much of their psychic energy is blocked off and not available for learning of any kind. Severe diffuse anxiety, extremes of aggression and submissiveness, psychological infantilism, may all result in a learning disability. Some children are so passive, so phantasy-ridden, that they have little to invest in academic work. However, these children will tend to do poorly in all subjects not in reading only, their difficulties are usually non-specific.

In some homes there is little verbal communication. The cultural level is low, there are few, if any books available, the children are never read to; theirs is an environment deprived of important verbal experiences. For such children language is not a comfortable tool and reading is likely to present problems.

The correlation between intelligence quotient and reading readiness has been discussed extensively and it has been shown that intelligence is by no means always a reliable indicator of future reading performance. Lately the concept of mental age has been stressed rather than that of I.Q. Most investigators feel that the child must have attained a mental age of between six and six and one-half years in order to successfully deal with printed words.

However, by no means all children with a mental age of six and one-half years are able to cope with visual verbal forms. Our guidance clinics, our schools, and our private offices are filled with youngsters whose mental age is ten years or older and who fail in reading, writing, and spelling for a variety of reasons.

The author feels that "developmental age" is a better yardstick for reading prediction than either intelligence quotient or mental age. There are many lively, reasonably well-adjusted youngsters with excellent reasoning ability, whose developmental age in important areas is lower than that of their peers. These children suffer from what Bender calls a "developmental lag." Language growth and development do not exist apart from organismic growth. Learning to read depends more on maturation than on I.Q., although these two are, up to a point at least, related. Dyslexic children are often neurophysiologically immature. In order to integrate successfully the visual and spatial patterns as they are represented to the child on the printed page, physiological functions underlying such complex activities as reading, writing, and spelling must have reached a degree of maturation.

Motility

There is, to begin with, the youngster's motility patterning. A young child's movements involve the total organism, they are random and little organized. The ability to move isolated parts of the body develops later out of this generalized pattern. Young children are normally immensely active, their postural reflexes and their tonus reflect a primitive state of organization. They respond to external stimuli in an undifferentiated, global, and sometimes explosive way. Learning to pattern motor and behavioral responses, however, is required in first grade where the youngster is expected to sit still for a considerable length of time.

Finer Motor Control

Orton was the first to point to dyspraxic features in dyslexic children. Rabinovitch refers to their non-specific awkwardness and clumsiness. Movements require patterning. A skilled motor act, as Gestalt theory points out, is not merely a summation of isolated events; a series of separate movements will not necessarily result in a fluid rhythmic performance. To hold a pencil and learn the rudiments of writing requires a degree of finer motor control which not all children have reached at the age of six and a half years. Youngsters with severe writing difficulties lack the control needed for the rhythmic flow of pressure and release required in the writing act. Indeed, we find many older dyslexic children whose written compositions look like those of youngsters who have just begun to write. Their letters are crudely executed and in some severe cases we find continuing difficulties not only with spacing, but with the formation of the letters themselves.

Perception

Not only the formation but the very recognition and identification of letters is difficult for some children. Perception starts out as an only crudely differentiated process and becomes more precise as time goes on.

Intact sensory equipment is not all the young child needs in learning to speak and read. It is not sufficient for the three-year-old to *hear* words, he has to differentiate between a bewildering variety of phonemes contained in words. In the same way, it is not enough for the six-year-old to *see* letters and words. His peripheral and central visual apparatus must be mature enough for him to discriminate between minute differences in the shapes of letters and words.

For some children nothing on the printed page stands out—in Gestalt terms the "figure" and the "ground" are fused, and as a result, the printed page looks like an undifferentiated and meaningless design.

Beginning readers and immature older children do not perceive words as structured wholes, but as a jumble of details lacking organization. As Langman puts it, "they do not perceive the complex and distinct internal designs of words, nor do they respond to their general shape and outline." Young children are often unable to grasp the physiognomic features of words, the specific relationship between the whole and its parts which, according to Gestalt theory, makes a word or a letter look familiar. They sometimes recognize a word in one situation, perhaps in heavy black print against the background of a white card. However, the perceived Gestalt is unstable and the child might fail to recognize the same word when it is embedded in a page. For successful reading the youngster's perceptions must be mature and stable enough to allow him to transpose the word or letter configuration into different situations, so that he can differentiate between a *t* and an *f* or a *d* and a *b,* whose only discriminating feature is orientation in space.

Spatial Organization and Printed Language

Since reading is a pattern laid out in space, it is pertinent to discuss briefly spatial organization in young children. The point of origin for all spatial relationships is the child's body image. His own body is the frame of reference. Between the age of three and four the child's image of his body—its parts and their relationship to each other—still is fairly undifferentiated. Body image is determined by laws of growth and development. It unfolds in the course of a maturational process by integration of the child's sensory, motor, emotional, and social experience. Spatial organization in the pre-school youngster still is at a primitive level. Many five-year-olds are unable to see the difference between the picture of an object and its mirror image. Furthermore, the child acquires only slowly the verbal concepts expressing spatial experiences. He has to learn what "upside down" or "right side up" means. As a matter of fact, acquisition of these verbal labels helps to fix the relationships themselves.

Laterality implies an internal awareness of the two sides of the body, directionality is the ability to project this awareness into extrapersonal space.

Ambiguous laterality is an expression of difficulty with spatial orientation and is frequently found in combination with disturbances in understanding and formulating of spoken and printed language. Most young children are ambidextrous and only slowly develop a functional superiority of one hand over the other. Thus it is of interest that Subirana reports that E.E.G.s of strongly right-handed children are more mature than those of ambidextrous ones. This would tend to prove that laterality has its maturational aspects as well as the genetic ones emphasized by Orton. Zangwill resolves the apparent dichotomy between a genetic and a maturational point of view by postulating a constitutionally determined maturational weakness in children whose laterality continues to be ambiguous.

Most researchers do feel with Harris that failure to develop a superiority of one hand over the other usually results in difficulty with consistent left to right motor and perceptual orientation which is essential for reading, writing, and spelling. Most people will agree that there is a significant relationship between poor lateralization and reading and spelling disabilities.

Visuo-Motor Organization

One of the ways we judge spatial organization is by means of the Bender Gestalt test, which is designed to evaluate visuo-motor organization. The evolution of visuo-motor Gestalten is primarily a developmental process, and the youngster who is expected to cope with reading and writing must have visuo-motor experiences similar to the adult's. The Bender Gestalt test correlates highly with existing reading readiness tests and it has been shown that the visuo-motor competence of poor readers is inferior to that of good ones. Difficulty with arrangement of the Gestalten on paper, tendency to rotation, and verticalization all bespeak the dyslexic child's troubles with spatial patterning.

Temporal Organization and Oral Language

Language in its different forms is organized in a time-space pattern. Chesni and Simon say that dyslexia is a disturbance in spatio-temporal organization, which consists, according to Hardy, in failure to "perceive and reproduce the serial order of auditory and visual information." As discussed earlier, speech, which demands sequential organization of linguistic units in time, is intimately linked to reading.

Disorders of auditory memory span and difficulties with auditory discrimination interfere not only with speech, but also with reading and spelling. For spelling the simple recognition of visual configurations is not sufficient. Spelling requires reproduction of these configurations, and if their temporal representation is inadequate, spelling difficulties are bound to follow. Vernon says that bad spelling reflects a lack of phonetic appreciation. Reversals of sounds in speech show up in reading reversals. Trouble with the intonational and melodic aspects of oral language are usually reflected in arrhythmic and non-fluent reading. It is quite possible that the same basic disturbance in temporal patterning underlies the rhythmic disorders of both reading and speech.

There is an abundance of literature dealing with the relationship between poor articulation and dyslexia. It is less well known that inadequate inner language structure and grammatical deficits will tend to interfere with the formation of anticipatory schemata in reading.

Another aspect which has been largely overlooked, and which we have long felt is an important factor in dyslexia, is word-finding difficulties. The child who has trouble evoking familiar word concepts when presented with pictures, is bound to have difficulties with the printed symbols representing these concepts. Rabinovitch feels, as does the author, that anomia — word-finding difficulty — is a significant and often neglected cause of reading disabilities. Dyslexic children's vernacular may be adequate, but they are frequently unable to remember not only the letters of the alphabet, but also the names of weeks and months. Since naming is a conceptual function, difficulty with naming would reflect not only trouble with all types of sequences, but also problems of a categorical nature.

Another and very important speech disturbance is cluttering, which is characterized by extremely fast, arrhythmic, and disorganized verbal output and is frequently associated with severe spelling disabilities. The clutterer's reception and reproduction of auditory configurations is usually diffuse and poorly structured—he will tend to say "monstry" for "monastery," and this is the way he will spell the word. His poor auditory discrimination is directly reflected in his inferior spelling.

Individual Endowment in the Different Modalities

We know that normal individuals' endowment differs in terms of the various sensory modalities. I now refer to the auditory, visual, and motor types described by Charcot and discussed by Freud in his paper on Aphasia in 1886.

Children vary enormously in ability to deal with the various sensory modalities. Some show excellent competence in the visual-spatial area, in striking contrast to their weakness in the auditory-motor realm. Others show a different pattern: excellent auditory ability while visual-spatial performance lags.

We are now testing approximately 100 children by means of a battery of 42 maturational tests for a reading prediction study on the kindergarten level,* and we are trying to get an impression of each child's maturational pattern in the various modalities and in the following areas: motility, gross and fine muscular coordination, laterality, visuo-motor organization, body image, figure-ground discrimination, auditory competence, receptive and expressive aspects of oral language, and matching ability. So far we have observed a number of phenomena:

1. There is a striking difference in children's performance from month to month, between the ages of five and six, before they have been exposed to formal learning. Apparently this age span is a crucial one in terms of maturation.
2. Some of the children's maturational patterns are bizarre in the sense that they are far advanced in one modality and quite slow in another one.
3. Some youngsters seem to mature slowly in *all* modalities in spite of good reasoning ability. One gets the impression that they have trouble with the structuring of Gestalten on different levels and in various areas. Their immature motor patterning, their trouble with organizing auditory and visual stimuli into sharply and clearly delineated configurations, their primitive perceptual and motor experiences, and their diffi-

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culty with reception and expression in oral speech seems to reflect some basic Gestalt weakness—perhaps as Bender and Subirana suggest—some inherent maturational deficit.

Implications for Teaching

What then are the implications for the teaching of reading? Most children learn to read regardless of the method of teaching. They learn to integrate short configurations into larger ones and analyze wholes into their determining parts, simply by being exposed to them over a period of time and by being given some organizational principle to help them unscramble printed patterns. The majority of bright youngsters learns to integrate and differentiate toward the middle or end of first grade, and as time goes on they acquire a stable enough perceptual organization to enable them to maintain a "linguistic Gestalt."

However, there are many other children for whom specific teaching approaches will make a world of difference. And only if we study the various sensory modalities differentially will we find out what type of learning a child can use best. The work done by Hardy and Wepman in the auditory realm and the very important new investigations done by Birch in the visual and motor sphere have significant implications for learning of both normal and handicapped children.

Since, as the author tried to show, reading requires both the grasping of wholes and the analyzing of parts, there is no real dichotomy between the teaching of whole configurations and that of separate units which are blended into larger entities. What method is best depends entirely on the individual child, his specific competence and weakness, and his differential maturation in the various modalities.

The youngster who has "physiognomic" troubles, as it were, for whom words do not easily become familiar even after many exposures, the child whose visual-spatial competence is lagging, will do better with phonics, which involves temporal rather than spatial organizational principles. If the child's auditory ability is adequate, phonics will make it easier for him to link the visual with the auditory structure of the word. Moreover, since the learning of smaller units reduces the complexity and length of Gestalten, such a child will find it easier to cope. Phonics does not, of course, mean the simple adding of sound to sound—after laboriously blending short units, there comes a moment when the process changes qualitatively and the Gestalt "jells"; only from that moment on the child is actually reading.

On the other hand, there are chidren who cannot possibly be taught by phonics. Children, for instance, who have trouble with analysis and synthesis, whose intellectual potential is low, whose auditory competence is weak, whose frustration level is too low to build up words slowly and patiently from their determining parts, will undoubtedly do better with the whole word approach.

It is not easy for the overburdened classroom teacher to investigate each child's competence and weakness. On the other hand, an awareness that avenues of approach are not necessarily the same for all children, has significance for all teaching, not only for reading. Such awareness is especially important in dealing with those children whose maturational pattern is markedly uneven. Much time and effort could be saved by careful study of the differential maximal learning modality in children.

Kofka says any perceived Gestalt is a product of organization and maturation and is promoted by training. Such training contributes to the formation of essential sensory-motor patterning in the Central Nervous System. We know from animal experiments that the non-use of a function leads to atrophy. Thus, the emphasis on maturation should not be understood to mean that one should sit back and let development do the rest. The clinician's and educator's task is to study carefully the maturational level of the different modalities in each child who has difficulties. Thus, in the framework of a warm and supportive relationship the teacher can help the child perform at the highest level of his potential.

To Sum Up. Reading is one segment of the interrelated skills which we call language. It requires a relatively high degree of integration and differentiation. If viewed as immaturity of Gestalt functioning, many of the correlates of reading difficulties like reversals, poor auditory discrimination, figure-ground difficulties, and poor oral speech become a comprehensible part of the total picture.

Differential study of the maturational level of the various sensory modalities will prove to be helpful not only for remedial work, but will also, in the last instance, provide another avenue for exploration of educational tools and methods.

3. Substrata-Factor Theory of Reading: Theoretical Design for Teaching Reading

HARRY SINGER

Implicit in the substrata-factor theory of reading (11, 12, 14, 17, 18, 29) is a theoretical design for teaching reading. This design is visually represented by a statistically-determined model of substrata-factors that an individual might mobilize for attaining power and speed of reading. Because substrata-factors mobilized in a general working-system undergo qualitative and/or quantitative changes with maturity in reading, several models are necessary in order to cover the developmental range of general reading ability. Each model, however, is only a *momentary* organization of the structure of the general working-system that underlies power and speed of reading. To explain the dynamics of the model, and to show how it can be used as a theoretical design for teaching reading, I shall draw upon the substrata-factor theory of reading. The model at the fourth grade level will serve as an example.

Substrata-Factor Model: Grade 4

After a comprehensive review of the literature, 36 variables were selected (4, 7, 13, 15, 21) or constructed (28), and administered to an apparently representative sample of 60 fourth graders. Substrata analyses of the matrix resulted in the model (29). This model, Figure 1, shows the levels and positions of the selected variables, and their direct and indirect contributions to the variance of the subcriteria and to the major criteria, Speed and Power of Reading. The number adjacent to each variable gives its per cent contribution to the variance of the predicted subcriterion or criterion. Because three variables are common, the total number is only 17. Altogether these variables account for 77.1 and 89.3 per cent of the variance in Speed and Power of Reading, respectively. Variances not accounted for must, of course, be attributable to variables other than those used in the construction of the model, such as: functional oculomotor efficiency (9), speed of processing visual stimuli (10), mobilizers (17), and flexibility (22).

The model may be read in various ways to determine how the mind might organize its subskills, ideas, and capabilities to solve a problem in reading. For example, the use of spelling recognition together with prefixes, and spelling recall (right-hand side, Level III) enter into the constellation of subabilities that make up Word Recognition in Context. Word recognition in context, plus suffixes, and mental age contribute to the variance in Vocabulary in Isolation. Finally, on the highest level, vocabulary in isolation becomes integrated with suffixes, mental age, and matching sounds in words to culminate in Power of Reading.[1] Again, starting with spelling recognition, Speed of Reading can similarly be worked out.

The dynamic processes may be visualized as a sequence of constantly changing sub-models, each a representation of a working-system, momentarily mobilized to satisfy the purposes of the reader and the demands of the task. For example, an individual at one time may organize a substrata-factor sequence for the purpose of transforming symbolic stimuli into mental processes for the association of meaning; at another moment, for solving a word-meaning problem; and, at the next instant, for conceptualizing, relating ideas,

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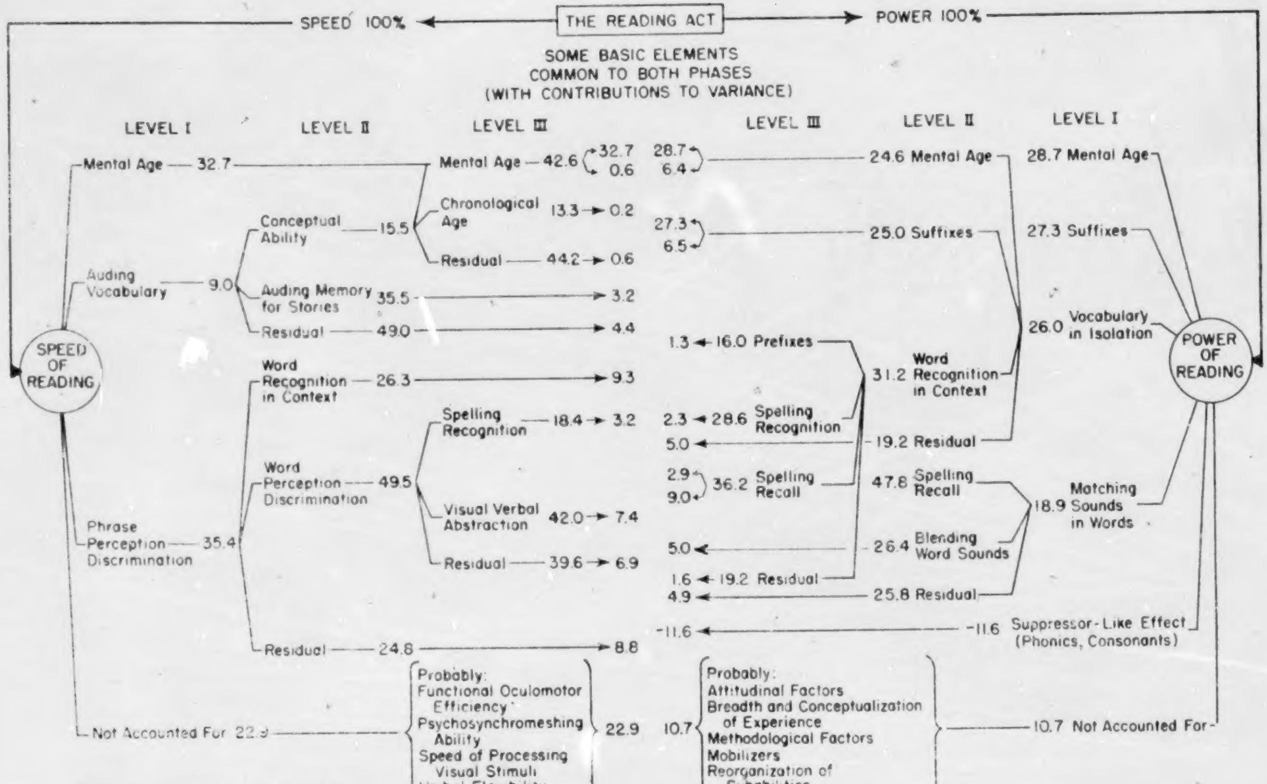
[1] The predictors at this highest level are purified by a suppressor-like effect (16, 23), contributed by consonant phonics.


THE READING ACT
SPEED 100%
POWER 100%
SOME BASIC ELEMENTS
COMMON TO BOTH PHASES
(WITH CONTRIBUTIONS TO VARIANCE)
LEVEL I
LEVEL II
LEVEL III
LEVEL III
LEVEL II
LEVEL I
SPEED OF READING
Mental Age — 32.7
Auding Vocabulary — 9.0
Phrase Perception Discrimination — 35.4
Not Accounted For 22.9
Conceptual Ability — 15.5
Auding Memory for Stories 35.5 → 3.2
Residual — 49.0 → 4.4
Word Recognition in Context — 26.3 → 9.3
Word Perception Discrimination — 49.5
Residual — 24.8 → 8.8
Mental Age — 42.6 → 32.7 → 0.6
Chronological Age 13.3 → 0.2
Residual — 44.2 → 0.6
Spelling Recognition — 18.4 → 3.2
Visual Verbal Abstraction 42.0 → 7.4
Residual — 39.6 → 6.9
Probably:
Functional Oculomotor Efficiency
Psychosynchromeshing Ability
Speed of Processing Visual Stimuli
Verbal Flexibility
22.9
POWER OF READING
28.7 Mental Age
27.3 Suffixes
26.0 Vocabulary in Isolation
18.9 Matching Sounds in Words
-11.6 Suppressor-Like Effect (Phonics, Consonants)
10.7 Not Accounted For
24.6 Mental Age
25.0 Suffixes
31.2 Word Recognition in Context
19.2 Residual
47.8 Spelling Recall
26.4 Blending Word Sounds
25.8 Residual
28.7 6.4
27.3 6.5
1.3 ← 16.0 Prefixes
2.3 ← 28.6 Spelling Recognition
5.0
2.9 9.0 36.2 Spelling Recall
5.0
1.6 ← 19.2 Residual
4.9
-11.6
10.7
Probably:
Attitudinal Factors
Breadth and Conceptualization of Experience
Methodological Factors
Mobilizers
Reorganization of Subabilities

Note: All values expressed in per cent

Figure 1. FLOW CHART TO SHOW THE RESULTS OF THE SUBSTRATA ANALYSIS OF SPEED AND POWER OF READING AT THE FOURTH GRADE LEVEL

H. Singer, 1960

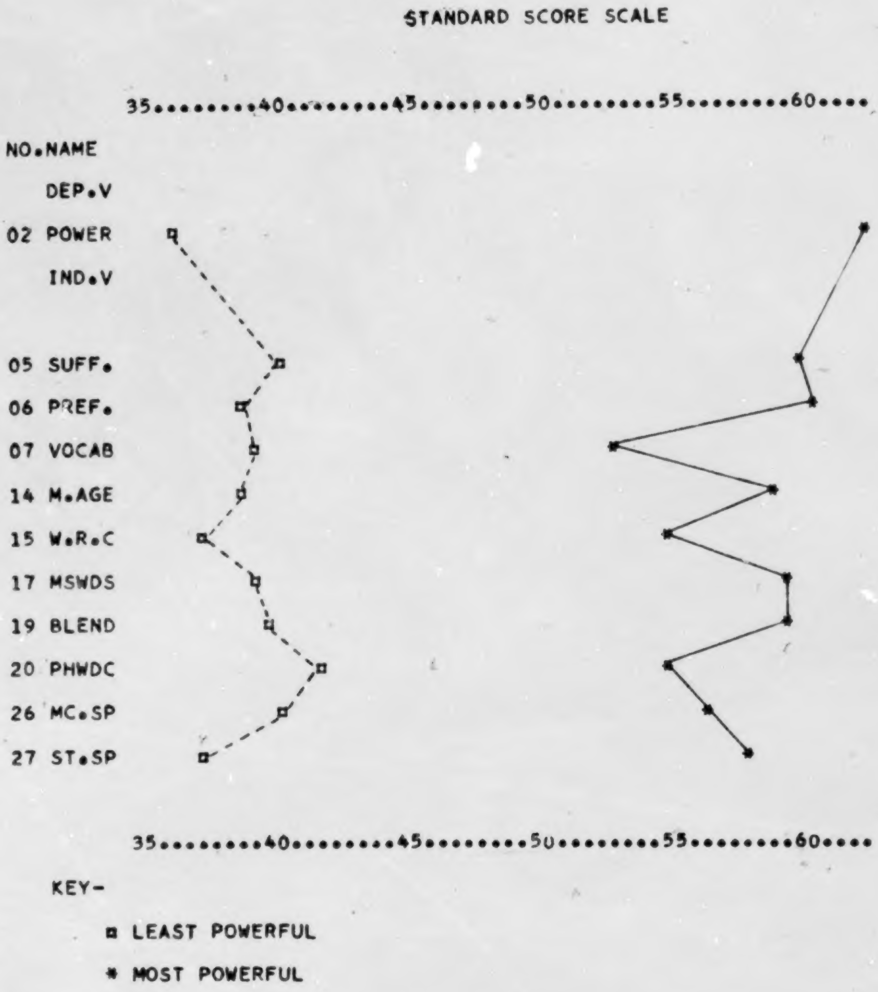


Figure 2. Psychograph of selected substrata elements for Power of Reading. The psychograph compares the average standard scores of the upper and lower 27 per cent of 60 fourth graders, separated on the dependent variable, Power of Reading. The groups are compared on variables that underlie Power of Reading at the fourth grade level, as shown in the model, Figure 1. These variables, in the order listed in the figure, are: Power of Reading, Suffixes, Prefixes, Vocabulary in Isolation, Mental Age, Word Recognition in Context, Matching Sounds in Words, Blending Sounds, Consonant Phonics, Multiple Choice Spelling Recogition, and Stanford Spelling Recall.

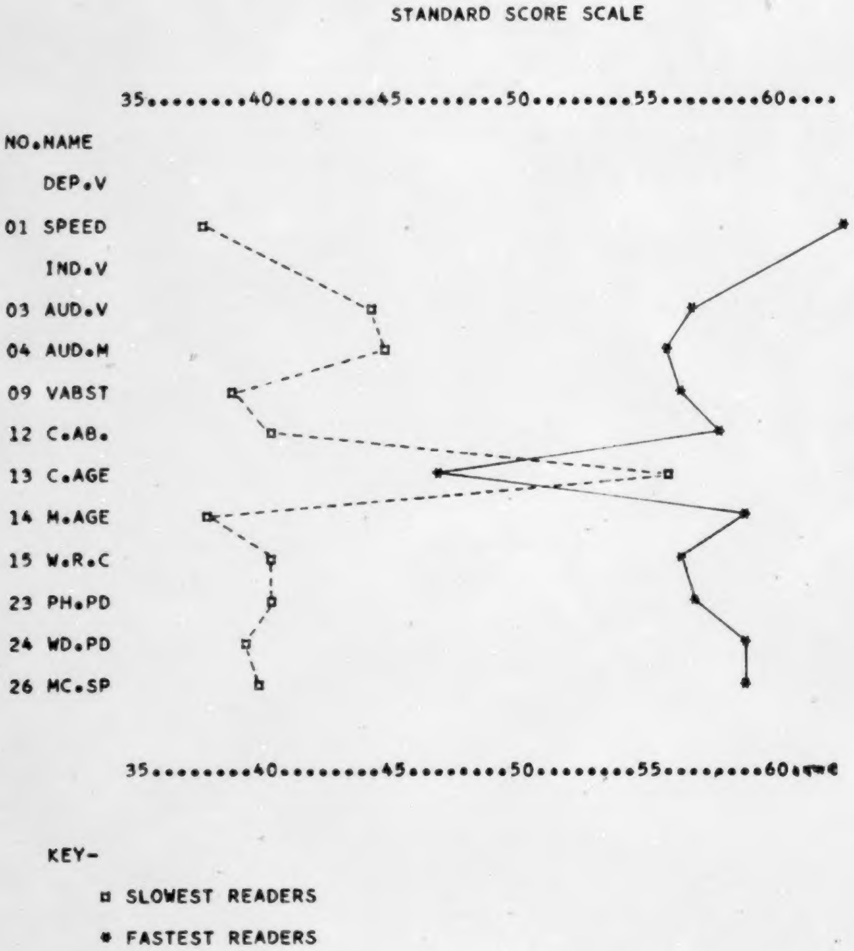


Figure 3. Psychograph of selected substrata elements for Speed of Reading. The psychograph compares the average standard scores of the upper and lower 27 per cent of 60 fourth graders, separated on the dependent variable, Speed of Reading. The groups are compared on variables that underlie Speed of Reading at the fourth grade level, as shown in the model, Figure 1. These variables, in the order listed in the figure, are: Speed of Reading, Auding Vocabulary, Auding Memory for Stories, Visual Verbal Abstraction, Conceptual Ability, Chronological Age, Mental Age, Word Recognition in Context, Phrase Perception Discrimination, Word Perception Discrimination, Multiple Choice Spelling Recognition.

making inferences, or, in short, for reasoning-in-context.

To summarize the model: at least three substrata-factor sequences constitute the general working-systems for Speed and Power of Reading; these may be broadly categorized as word-recognition, word-meaning, and reasoning-in-context. Differences within the general working-systems for Speed and Power of Reading appear to be related to the difficulty of the reading material and the varied purposes of the reader. In both Speed and Power of Reading, a reader brings a complex of ideational processes to bear upon the reading task. When reading for speed, a fourth grader tends to mobilize a working-system undergirded by the processes of *visual* word recognition, concrete and functional concepts rather than abstract levels of word meaning. However, when reading for power, his working-system is organized to utilize more *auditory* word recognition processes, auding, and visual vocabulary abilities. Hence, the model indicates that a shift in the reading task necessitates a change in the mental organization of the reader.

The degree of achievement attained, the processes employed, and the subabilities mobilized for the solution of a task vary from person to person because of individual differences in: (a) capacities, rate of maturation, and level of subabilities; (b) method, sequence, and scope of learning; (c) experiences and range of resulting ideas; and (d) temperament, motivation, and values. These differences are manifested in the kinds and relative amounts of subskills which each individual mobilizes into his working system. However, there is more than one route to the goal of success in reading; two individuals may attain the same degree of achievement by means of qualitatively and/or quantitatively different organizations of working-systems.

Theoretical Design for Teaching Reading

The model provides the teacher with a "cognitive map" of "what-leads-to-what" (30) in the general working-system for attainment of speed and power of reading at the fourth grade level. The insight gained from this cognitive map enables the teacher to formulate the following design:

Objectives. The instructional program should at least encompass the educationally modifiable elements represented in the model. Moreover, instruction should aim to give the reader the necessary versatility to reorganize his working-system according to his purposes and the demands of the task. For example, an unfamiliar word constitutes a barrier to a working-system mobilized for whole word recognition. To eliminate this barrier, a more analytical working-system is necessary. This versatility may be attained by instruction which: (a) develops a broad structure of subskills and processes, (b) provides practice in switching from one working-system to another, and (c) creates an emotional atmosphere conducive to the utilization of different routes to the goal of power and speed in reading.

Whenever possible, subskills for power and speed of reading should be developed in alternation. In agreement with the meaning theory of learning (2), understanding or power of reading should be developed first, then efficiency or speed of response next.

Diagnosis. Substrata diagnosis starts with a symptom at the criterion level and proceeds through the relevant substrata levels to discover whether there are causal deficiencies in the underlying elements.

For general evaluation, an individual's profile of substrata elements may be compared with psychographs for most powerful vs. least powerful and fastest vs. slowest readers, Figures 2 and 3, respectively. These psychographs indicate that, in general, subabilities tend to be evenly developed. Therefore, a significant departure from the generality may be attributed to a differential in methodological emphasis or intra-individual variation in a learner's capabilities, or some interaction of these causal factors.

Processes in reading should also be evaluated because two individuals may attain the same level of accomplishment, but one individual may do so by a more mature process than the other (1). In general, readers develop through a gradient-shift in modal dominance from kinesthetic to auditory to visual perception (12). To progress through this sequence, an individual has to acquire the necessary response repertoire and learn to reorganize his "habit-family-hierarchy" (19) of working-systems so that the visual modality may, in fact, become dominant. Speeded practice in formulating and reading to answer questions (8) may not only effect this reorganization, but also enhance reasoning-in-context.

Subgrouping. Subgrouping should be based not only on degree of achievement in the major criteria, Speed and Power of Reading, but also on level of performance in each of the subcriteria and their specific underlying elements. Some individuals, however, may deviate so markedly from the group that models at other grade levels would be more suitable for their instructional designs.

Development of word recognition ability. Although basal readers implicitly instruct beginning readers to rely upon memorization for word recognition, students apparently learn to utilize higher mental processes because cognitive factors do enter into word recognition abilities (20, 29). To facilitate such use of higher mental processes, materials could be organized for teaching pupils to conceptualize word recognition responses. For example, after teaching some sight words, the teacher could group these words according to a common kinesthetic, auditory, or visual perceptual element, and instruct children to perceive, abstract, and generalize this common element. Words which do not contain this element could serve to limit the generalization, and, perhaps, help the child develop necessary versatility in word attack. Under similar conditions, transfer of training has been successful for spelling (6), and may be even more effective for word recognition. Thus, instead of learning a separate response for each stimulus word, students would gradually develop an adequate repertoire of "mediated responses" (24) to mobilize in varying combinations for recognizing any unknown word.

Development of word meaning. Both the formation of, and the appropriate response to concrete, functional, and abstract levels of word meanings (5, 25) may be developed by instruction in material graded according to these conceptual levels (3, 27). A variety of instructional material should also be devised for teaching other dimensions of a concept, such as span, clarity, richness, organization, and communicability (26, 31). Conceptual ability, however, is also dependent upon mental and chronological age, and upon organic and personality factors (31).

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4. Programed Instruction in the Field of Reading

P. KENNETH KOMOSKI
and
DAVID A. SOHN

There is a great deal of excellent teaching occurring in the field of reading and study skills in the classrooms of today. We would like to raise a question, however, about some of the learning. Let me explain. After the teacher of reading emerges from the highly theoretical environment of college, he encounters the practical world of students which presents a tangle of problems the textbooks never discussed. He soon senses, if he is a good teacher, the importance of what can be called "feedback" — the effect that his teaching has upon his students (or that he thinks it has) as observed through their responses. One authority said recently that so often we think we are teaching students wonderfully when in reality we are acting merely as clowns, amusing the students and wasting their time (1).

The teacher, then, is reinforced by what he thinks works well with a group of students. His approach to teaching tends to become empirical. What works, works. What does not work, he discards. After a few years, the good teacher who has observed carefully and who has considered his feedback will think he can teach a group of students more effectively, since he has cast out the "poor teaching" and has preserved the "best."

But the question arises, "The best for whom?" The nature of group teaching demands that he focus on the "happy median." At best he can reach only a majority of a group, and though he may try to individualize reading instruction at times, usually a sub-group of students will glean the grains of truth he scatters, while others will catch only the drift of occasional chaff in the wind.

Group feedback, therefore, usually tells the teacher what works *best* for the *most* (according to his judgment) and some of the feedback can be specious because it is easy to be fooled into believing optimistic appraisals of our own teaching. Day after day, year after year, acting as a sort of computer, the teacher adjusts according to the information that student reactions supply.

Just as a "traditional" textbook can never reach all the students it is written for, so no teacher can truly teach, using "traditional" methods, all of the students in a group. So it is that a large sub-group benefits from each year of experience the teacher records, though even students in this group will profit in varying degrees because of individual differences. There will always be some who do not learn much. Thus, as I said before, there is a great deal of excellent teaching, but unfortunately it is to some of the parts, not the whole.

Programed instruction can be a great step forward for individualized learning in the reading field. The perfect learning situation has been described as Mark Hopkins on one end of a log and a student on the other (we were amused to note that one commercial programing concern made a slip in a brochure and called it "Mark Hanna on one end of a log and a student on the other" which would no doubt be an "educational" experience but not of the type we are discussing here!). In any case, it is significant that we have the "know-how" to take much of the wisdom and teaching ability of either a Mark Hopkins or a Mark Hanna off the end of that log and put them inside a program. Excellent teachers over the years hone their skills to a fine point. These are things they *can* take with them, for too often, tragically, the skills are buried with the teacher. Even if they have written a textbook, an essay, or a monograph, they have not completely preserved their "best" because in such cases they are "telling" a student what should be done rather than arranging conditions under which each student does it. Looked at in another way, they have not experienced enough feedback from readers and then revised accordingly. In a sense their writing is an educated guess. The techniques of programing can come much nearer to preserving good teaching for posterity. A master chef may "tell" his techniques in prose, and your gourmet sauce, through following his directions, can taste like dishwater. But if this master chef programed his techniques, tested them with one student, revised according to where the student went astray, tested again, revised again, and gradually refined his program, the student's results would probably be tasty. As a matter of fact, programed cookbooks could possibly save many marriages in this country, though they might concurrently increase the incidence of obesity.

So much of the teaching of reading skills is, then, approximate. But programing allows us to be more precise because it is an applied science which refines the educational process when it is done well. Think for a moment, if you have taught reading skills, of *why* you do what you do. Are you making the students behave the way that you want them to behave (I am not speaking of discipline now)? How many of your students can talk about the SQ3R method, for instance? Yet how many of them use it consistently and efficiently? How many of your students can talk about contextual clues or the rules of grammar? How many of them use what they know about these skills to their best advantage? *Factis non verbis* is a Latin phrase meaning, "deeds, not words." You learn by doing, not by talking about doing.

Programing is an undiscovered country in many ways. Yet what we know about the science and art of programing at this point puts us in a challenging and exciting theoretical position. We can use this empirical technique in carefully controlled, experimental conditions. We can observe where the trolley jumps the track. And we can not only put the trolley back on the track but we can shape the track to fit the demands of the trolley. For varying types of students, we can shape programs which will teach them. Through testing a program *with the students*, observing *how we fail to teach by observing the students' errors*, and revising, testing, revising, testing, and revising again, time after time, we can perfect programs which *teach* students. If there are general sub-groups within a class, there can be programs for each group so that minorities are not neglected and all are involved. Theoretically it is possible to have each student work according to his needs.

Up to now I have talked a lot about the programing theory. What are we doing at the Center for Programed Instruction to help the reading field? The Developmental

Reading Project, with the aid of Carnegie Corporation funds, is an attempt to find a way, through programed instruction, to increase the reading ability of the retarded reader in junior high school. When we began the project, we attacked the problem from a traditional point of view. We programed discrete skills—aspects of contextual clues, phonetic analysis, and others—but we eventually became uneasy about this approach. The total picture was complex, and we got the feeling that we were trying to build an enormous intellectual house of complicated dimensions brick by brick. It began to appear that if a student went through each minute programed unit, that he should learn, he would eventually use contextual clues, phonics, and the other skills, yes, but his white beard would get in the way of the print when he read. Another important factor we considered was the fact that traditional methods had been tried time and time again with these students with little success.

At about this point we were fortunate to be able to investigate what we feel is a significant research effort in the reading field—the work of Jack A. Holmes and his colleagues on the Substrata Theory of Reading Ability. This research crystallized for us what we had thought of in a rather vague way—the enormous complexity of the reading act. It gave us some indication of why so many different roads can lead eventually to reading efficiency. The data identified important predictors of variance between good readers and poor readers for the *power* of reading and the *speed* of reading. Though criticisms may be directed at these studies, they are certainly refreshing attempts to find and describe correlates of the reading act.

We would like to pause here and state a hypothesis that remains to be proved, but, if preliminary indications are a help, has a high probability for confirmation. The nature of programing is such that when a teacher-programer programs his subject, he also teaches the reading of it. Because he does test his programs on students selected from the audience at which he aims his teaching, and because he analyzes the feedback from his audience, revising until he does his best teaching, while he teaches his subject, he also teaches the reading of it. If he is a chemistry teacher, he teaches his students to think as chemists think and to read chemistry. If he does not do this, his program will not teach well. Therefore, our hypothesis is that *by working through a good program, a student improves his reading ability.*

It is obviously important that if this hypothesis proves to be true, the technique of programing can become a tremendously powerful tool for the teaching of reading, especially if programs are directed specifically toward those areas which separate the poor readers from the good ones.

Substrata factor analyses showed us important predictors of variance between the good reader and the poor reader in regard to reading power and speed. We are aware that the study is an analysis of a given population and that we should be cautious about making broad generalizations from it. We found, however, that it gave us indications that skills many reading experts have always felt were important proved to be important predictors in this case. Viewed in the light of programing, we began to see how aspects of these predictors might be programed. Auding ability, verbal analogies, vocabulary in context, vocabulary in isolation, phonetic association, prefixes, suffixes, Latin and Greek roots, homonymic meaning, visual verbal meaning, and dot, figure and ground have been considered important parts of the reading act in any case. These accounted for 41% of the variance in Centroid and Substrata Factors for the Power of Reading in the high school study (2). Our problem was to include these factors in a program in a sound way.

We felt that we could not attack the entire reading population's problem at once. We settled on directing our programing at students in junior high school who were reading in grade levels 4-6, as a beginning.

Other questions arose. Should we teach the skills one by one or should we take a combined approach? What part would the negative attitude of so many retarded readers toward reading play in their performances? Many of them have heard before the story about how the teacher was going to teach them to read better, only to experience teaching that they had undergone previously, babyish materials, boredom, and failure again. It would seem that a traditional, bit-by-bit approach would work *against* us, not *for* us.

We hit upon an idea which could possibly solve this problem. Why not teach them important skills through the device of teaching them words? As each student worked through a program on vocabulary building, he would be learning more about reading words by reading. Including aspects of important predictors Holmes and his colleagues found to be important could possibly strengthen total ability over a series of units. Adding reading selections utilizing the newly learned words could encourage the students to apply skills, give them a sense of reading patterns, and lead to larger units of prose.

I would like to show a few ways in which some of these predictors can be programed. It is important to remember that these isolated frames may appear too easy, but that in a sequence, more difficult behavior would gradually be demanded from the student.

Here is a frame using *vocabulary in context:*

> The *centipede* ran across the floor on its many pairs of legs. The lady almost stepped on the whole *centipede* with the toe of her shoe. It ran into a crack in the floor. A *centipede* is a | chair with many legs / a large man / a tiny animal |.
>
> Answer: a tiny animal.

Here is a frame involving *roots:*

> The root *centum* means one hundred in Latin.
> The root *pedis* means foot in Latin.
> You would expect the number of feet a *centipede* has to be nearer | 4/2000/100 |.
>
> Answer: 100.

This is a frame using a *verbal analogy:*

> Many legs are to *centipede* as two legs are to | man / house / spider |.
>
> Answer: man.

Here is a frame involving *homonymic meaning.* We feel similarities in sound, configuration (or both) can be confused by the student:

> In Europe, if you want to know how long your finger is, you could measure it in | centipedes / centigrades / centimeters |.
>
> Answer: centimeters (you could use centipedes, but these animals are hard to hold and they bite).

This frame involves *visual verbal association* (synonyms, antonyms):

> A centipede is an | insect / animal / ocean dweller |.
>
> Answer: animal (insects have no more than six legs).

We have not shown all the possible types of frames, but this sampling is intended to give some indication of some types of training the retarded reader would get from the programed unit.

I would now like to show frames from a unit on the cluster of words *vacuum, drought,* and *famine.* After teaching the word *vacuum,* teaching the pronunciation of *famine,* and defining *famine,* these frames follow:

> #23. If there were no food in a village for two years, you would say there was (no famine / a famine).
> Answer: a famine.
>
> #24. During a famine, a person would lack food. In a vacuum, a person would lack (air / food).
> Answer: air.
>
> #25. During a famine, people and animals would lack (air / food).
> Answer: food.

It is interesting to note that during the initial testing, the programer discovered that some students did not know what the phrase *lack of* meant and a short sequence on this concept had to be added to the program.

As the student proceeds through the program, the frames gradually become more difficult.

> #50. 1. A person cannot breathe in a (drought / famine / vacuum).
> 2. A person cannot eat much in a (drought / famine / vacuum).
> 3. A person should not waste much water in a (drought / famine / vacuum).
>
> Answer: 1. vacuum.
> 2. famine (if you put vacuum, you're not wrong because you could not eat for long without air).
> 3. drought.

Then, toward the end of the sequence come the terminal frames:

#57. If New Jersey had no rain in 1962,
there would be a ( )
which would hurt the crops.
Answer: drought.

#58. People have starved in China because a drought has caused a ( ).
Answer: famine.

#61. 1. *Vacuum* means ( ) of
( ) or ( ).
2. *Drought* means ( ) of
( ) for a ( )
( ) ( ) in a
which usually has ( ).
3. *Famine* means ( ) of
( ) for a ( )
( ) ( ).
Answer: 1. lack of air or gas.
2. lack of water for a long, long time in a place which usually has enough rain.
3. lack of food for a long, long time.

The final frames ask what each of the words mean without using any prompts. Following this unit was a reading selection of two paragraphs with questions which attempted to determine how well the student could comprehend the reading.

We ran a short experiment with two programed units of this type on retarded readers from New York City. One subjective impression of the observers was the surprisingly positive attitude many of these students had toward the reading of the units.

How much of an effect the feeling of success that a student experiences from reading such a program will have on his attitude toward reading remains to be seen, but it is a factor that we will observe closely.

The experiment indicated that the students learned the meanings of the words and that their comprehension on paragraphs which used the words improved as well. This, of course, is what we expected, if only because there was such small learning required. What effect many units and exercises over a period of time will have on students is one of the questions we are anxious to answer.

Our program is in its formative stage and it is presently experimental. We feel that we can combine much of what the Holmes' research has shown us with what we know about programed instruction, and that through this program, we may find out much about how to help the retarded reader. Our program will have research built into it. Perhaps we can measure the effect that certain variables have on the eading act. Perhaps, also, programing will allow us to refine our teaching and to know more precisely what it is that we are teaching.

One of the great problems of the reading field in the past has been that reading materials have been created that we know have improved reading. In a sense, however, their creators did not know exactly what they were doing. They did know (and the Holmes' research gives an indication as to why) that if you give students enough practice in reading, it is very likely going to bring about improvement. We all know that there are materials on the market now that primarily do just this. We do not mean to indict such reading improvement programs but merely to point out a knotty problem which is that students have learned to read better in the past, but no one could say specifically what caused them to do so.

We feel that it is time to know more about what we are doing, and we are trying, as nearly as is possible, to investigate, through this programed technique, what works and why it works. We hope to discover not only more about how to help retarded readers, but also to open up many areas for research.

We may frequently do the wrong things, but at least we will have some indication as to why they are wrong. And we may discover some important things that are right and help to shed some light in areas where there is an abundance of darkness.

NOTES

1. A paraphrase of a statement by discussant Marcus Konick, Dept. of Public Instruction, Harrisburg, Penna., at the Fifth Annual Meeting, College Reading Association, April 14, 1962.
2. Holmes, Jack A., and Singer, Harry. *The Substrata Factor Theory: Substrata Factor Differences Underlying Reading Ability in Known-Groups at the High School Level.* Mimeographed at the University of California, Berkeley, California, 1961.

5. When Should and Could Johnny Learn to Read?

JACK A. HOLMES*

Traditionally, our public school children embark upon the exciting adventure of learning to read when they enter the first grade at the age of six—or soon thereafter. But why wait? Many enthusiasts, anxious to speed up the production of academic excellence, are now urging that the *formal* process of teaching the child to read should start much earlier. Can it be done? Though some doubt that it can, the Harvard psychologist, Jerome S. Bruner (1960), has declared, "Any subject can be taught effectively in some intellectually honest way to any child at any stage of development."

Before we examine the research findings regarding the feasability of trying to teach children to read before the age of six it should be made clear that there are other extremely important questions that must be considered. First, there is a problem in visual hygiene. Some authorities claim that by teaching the child to read too soon we run the risk of damaging his eyes for life; others, however, claim that no such risk is involved.[1]

The second question concerns itself with curriculum sequence and a problem in educational philosophy. Obviously, when a child is learning to read he cannot be romping with father, walking in the woods, exploring a pond, building with blocks, listening and talking with adults, or playing with other children. That is, when engaged in reading he cannot be learning the many other worthwhile skills which underlie the child's ability to grasp the deeper meanings behind the printed page (Holmes, 1960). He cannot be accruing the mass of first-hand information and rich personal experiences which bestows upon the printed page a sense of reality (Holmes, 1957). Nor can he be expressing himself in the many ways which young children find so satisfying—and which psychologists find so necessary for his well-rounded development.

Rousseau (1762) long ago rejected the French tradition of rearing children from infancy as if they were "little adults." Rousseau would not warp the child to fit society, but would allow him to grow with that freedom of expression found only in untutored play. He would encourage the child to satisfy his curiosity in an atmosphere of unfettered fun while exploring nature first-hand. The philosophical question, then, boils down to this: If we agree with Rousseau, that the purpose of education is to develop an emotionally stable child who can think creatively, must we also follow Rousseau's thesis that to do this we must not press the formal teaching of language and reading too soon upon the child's tender nature, but allow him to develop his own bent first by personally exploring nature?

The seriousness of the above questions cannot be denied. Yet, it is premature to try to answer them before we resolve the more basic question of just how early *can* the normal child learn to read. If he cannot learn to read before the age of six, the visual hygiene and philosophical problems lose much of their impact so far as the teaching of reading in the pre-primary grades is concerned.

Though the literature has been reviewed in the past, no generalization has been formulated other than that put forth by Gates in 1937 when he wrote, ". . . statements concerning the necessary mental age at which a pupil can be entrusted to learn to read are essentially meaningless." Obviously, Gates' statement gives us no help at all for formulating policy or guiding practice. Therefore, the present writer has been asked to review again the pertinent research in the hope that more useful generalizations may emerge.

Morphett and Washburne (1931) compared the progress of first graders at different ages. They concluded that a mental age of six and one-half years was the optimal age at which to begin teaching the child to read. Taylor (1950), however, has shown that Scottish children at the age of five enter school and begin to learn to read. Moreover, when compared with American children, the Scots hold their lead and are, age for age, more than a year advanced in reading by the beginning of the second grade. The average I.Q.'s in both groups were 100. In sharp contrast, Olson (1942) maintains that six and one-half is too young for most students, and that the schools should postpone reading until a child exhibits what he calls a "seeking" behavior toward books. For many, this would be at age seven and beyond.

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*This paper is part of an on-going longitudinal study conducted under the direction of the writer and supported by a grant from the Carnegie Corporation of New York. Thanks are accorded to my assistant, Mr. Charles Perkins, for his part in tracking down some of the pertinent literature.

[1] This question is in part being resolved in an article now in preparation: "The Visual Hazards Involved in the Early Teaching of Reading."

On the other hand, Gates (1937) has shown that *four* groups of first graders given beginning reading instruction by teachers of varying ability, using different kinds and amounts of instructional material, learned to read at different mental ages. The first group, with a teacher who used modern and effective techniques and a great deal of extra material adjusted to individual differences, learned to read at a mental age of 5.0. A second group, using slightly less material, learned at age 5.5. A third group, even less well provided for, required a mental age of about 6.0. The fourth group, taught in large classes by inferior teachers, using mass methods, included many children with mental ages of 6.5 who did poorly and some with mental ages of 7.0 or above who had difficulty.

In the experiment just cited, Gates took students of the same chronological age and searched for the different mental ages required to learn to read under different conditions. Davidson (1931), on the other hand, selected three groups of children all with the same mental age of four years, but of different chronological ages, i.e., 3, 4, and 5 years. The mean I.Q.'s of the three groups were 128, 98, and 77, respectively. The results indicated that the bright 3-year-olds made the greatest gain in reading achievement, and the dull 5-year-old, the smallest. Since no group contained more than five children, instruction could be geared to individual differences.

Now, if we return to Taylor's study, we realize that, while in America the average size of a first grade class is 30 pupils (NEA, 1957), the average first grade class in Scotland, as indicated by Taylor, contains only 19! Already a nascent hypothesis appears plausible: *the younger the pupils, the smaller the class must be if reading is to be successfully taught.*

More recently, Durkin (1961) studied 49 children who had learned to read prior to entering the first grade. She says, "When the total group started first grade, the average reading achievement for those who learned at three years was 2.6, according to grade-level norms. For those who didn't learn until they were five, the average achievement was 1.7. I.Q.'s were comparable. Two years later, when the children were finishing the second grade, the average reading achievement of those who first learned at three still continued to be greater." However, this lead had been reduced by four months.

Durkin's study, in addition to reinforcing our hypothesis regarding teacher-student ratio, introduces the important factor of motivation. She states, "The total group included Caucasians, Negroes, and Orientals. Economically, the children come from social-class levels varying from lower-lower to upper-middle. But, in personality, they were commonly described by parents, and later by teachers, as persistent, perfectionistic, and competitive children." In no case did a child "learn on his own," but *was taught* by an older sibling, a parent, a baby sitter, or someone else. Generally, the most helpful situation was to have a sister about two years older who liked to play school. The study pointed out that the younger child who learned to read before entering school seemed to have a keen desire to "keep up" with the older one, and this required that the younger one learn to read and to print about the same time as the older one.

Rowan (1961) reports a study being conducted by Moore at Yale. Moore subscribes to the doctrine of John Locke that, "When he can talk, 'tis time he should begin to read." Without regard to reading readiness factors, Moore is presently teaching 35 normal-to-bright youngsters, age two to five years, to type, read, write, and take dictation! The method? Each child is allowed to play on an electric typewriter. As he pounds the keys, "an adult sitting next to each child" repeats the name of each number or letter as he strikes it. The child soon learns to call the keys before the adult, and from this stage moves to "drawing" letters on a chalkboard. When the child has mastered this, a projector is fastened to the typewriter, and now he reads and types out simple

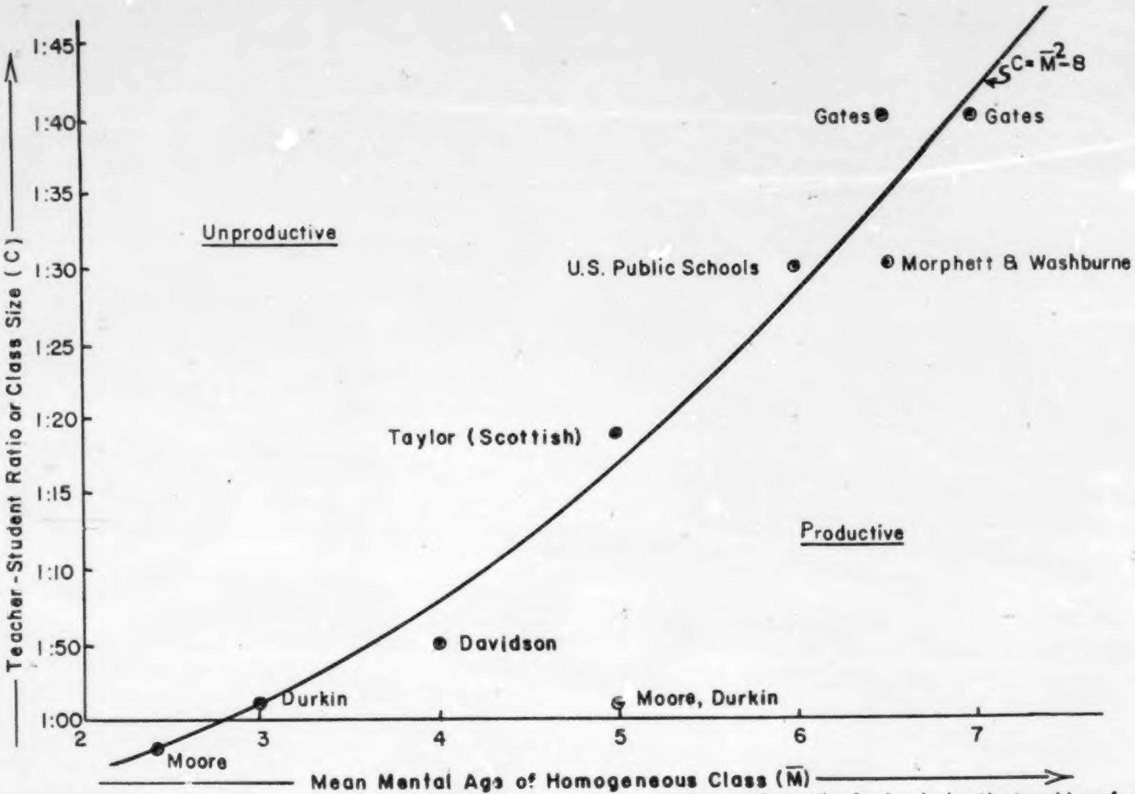

Fig. 1. The curve conservatively divides unproductive from productive teacher-student ratios for beginning the teaching of reading to homogeneous classes of varying mean mental ages. For Moore's two to three year olds, it appears as if a teacher plus an electric typewriter, projector, and tape recorder for each pupil is equivalent to a two-to-one teacher-student ratio!

sentences. Finally, he reads the simple sentences into a recording machine from which he subsequently types out stories from his own dictation. Rowan wisely notes that in this situation we have children learning at the age of two years, but that the teacher-student ratio is one-to-one! Obviously, there are not enough teachers to make this method generally applicable; therefore, Moore hopes to develop a teaching machine which will do the trick. He believes that it is the native curiosity and drive for competence in these children which he is drawing upon to teach them to read. If so, motivation in this case must be somewhat different from the competitive drive which has its roots in the sibling rivalry noted by Durkin.

Summary and Conclusions

We began by posing the question, "When *should* children be taught to read?" On this score, attention was called to the importance of two problems: one having to do with the developmental hygiene of the eyes, the other with the philosophy of the best curriculum sequence for developing emotionally stable, yet creative, individuals.

To understand the limits within which these two problems must be solved, it was decided that first we must search the literature to discover the earliest age and conditions under which a normal child *can* learn to read. A summarizing synthesis of the scattered studies points to the following generalizations:

1. Under favorable conditions, normal children *can be taught* to read before the age of six years; perhaps, as early as the age of two or three. The advisability of doing so is another question.
2. Reading achievement in beginning classes at any age is directly related to pupil intelligence and motivation, teacher competence, teacher-student ratio, and appropriateness of methods and materials.
3. Motivation for learning to read may stem from different drives.
4. Other things being equal, the earliest age at which a child can be taught to read is a function of the amount of time or help the teacher can give the pupil. This principle is elegantly demonstrated by the mental age versus class size curve shown in Fig. 1.

As a *first approximation,* the equation for a conservative line of best fit[2] takes the form:

$$C=M^2-k$$

where C is class size, M is the mean mental age of a homogeneous class, and k is a constant taking the value of '8' for these studies.

However, should the "other things" such as teacher competence, methods, materials, pupil motivation, and amount of outside reading deviate markedly from the common level obtained in the above studies, then "k" also would be altered accordingly. To elevate this generalization above the level of an approximation, a carefully designed set of coordinated experiments are needed.

At any rate, when placed in the above perspective, much of the criticism of the reading problem in the public schools takes on a new light. The answer is straightforward. Just as the nation's great freeways and superhighways, with their elaborate underpasses, overpasses, and clover-leaves, cost a million dollars a mile to construct, so the royal road to a nation of precocious readers must also cost us dearly; for the conditions of early excellence in reading demands a low teacher-student ratio in beginning classes. Research, of course, may discover more effective methods, such as teaching machines, to help us, but research itself is a very expensive business.

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[2] The quadratic equation $C=M^2+M-12$ also fits well within practical limits, but the curve is less conservative.

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6. The Flexibility Hypothesis in Reading and the Work of Piaget

FRANK LAYCOCK

The mark of a good reader, one who has gone beyond the initial stages, is the ability to control his reading. Some readers do not reach this point, although they are perfectly able to comprehend print. That is, they can read in the sense of discovering what the words have to say, but they do not go about the task efficiently. Since there are so many kinds of reading, each to be approached in its own best way, the reader who can decide quickly what a given passage requires has the advantage. It is a handicap to spend as much time plodding through a trifling story in a magazine as in mastering a technical article, or to scan for a stray fact with the same care as to check a telephone number.

For several years I have tried to find out why some readers develop so much more flexibility than others. In a series of investigations of several hundred persons, from elementary school and from college, I used change in reading rate as an indicator of flexibility. From among readers who could comprehend well, I selected those who could change pace readily and those who could not. Then I sought other characteristics associated with this flexibility or rigidity.

The differences between the two kinds of readers seem to be of two sorts. The first pattern is "peripheral": flexible readers had finer control of eye movements, quicker reaction time, smoother progression along a line of print. They displayed this superiority not only when reading prose but also when going through lines of numbers arranged like words but devoid of content. Less flexible readers reacted more slowly and moved more haltingly, whether contending with meaning or not. The second pattern is "central": flexible readers took in more words at a fixation, grasped ideas more quickly, caught small differences in detail more accurately, and solved a series of problems better. For this last, they took the Luchins "Water Jar Test," in which it is necessary to figure out how to use various sizes of jars to get specified amounts of water. The test leads persons to use one solution several times and then requires an abrupt change. Flexible readers tended to alter their solution as easily as necessary; less flexible ones to persist unsuccessfully.

Some important questions are still to be answered in this particular research. It is not clear how critical the constitutional characteristics are in helping or hindering motor control. Changing rate is not the same as shifting from, say, prose to poetry. There probably are many specific facets to flexibility—as clinicians studying personality development believe — rather than one inclusive trait. But, more generally, to understand flexibility in reading, and perhaps to derive a theoretical model for it, require that one examine how a person comes to a decision about an ambiguous situation. In reading, this question is implied over and over again: "How should I discover the meaning in this passage?" The data I have gathered so far suggest that a rigid reader habitually uses a single approach that he has come to rely on. In fact, he uses it so regularly that he seldom, if ever, asks himself beforehand how he is going to read. But where a passage is such that he clearly should change, he may persist, nonetheless. It may be because his constitutional equipment permits little alteration, or because he does not recognize the appropriateness of change, or because he cannot permit himself the risk of trying something strange.

Jean Piaget's probing into children's intellectual growth has uncovered certain trends that may fit this problem of flexibility and rigidity. He and his collaborators have concentrated upon how children learn the increasingly abstract relationships among the objects and experiences they meet. By preference Piaget has studied this development primarily in the realms of mathematics and science. It is possible, I believe, to adapt some of his ideas to the more central aspects of reading flexibility, where interpretation and set are involved, to explain what a reader does when he has to decide how to read a given passage.

First, there is the basic transition from the stage of "concrete operations" (during the period from about seven to twelve years of age) to that of "formal operations" (from about twelve to fifteen). Operations, to Piaget, are the ways in which children work out order in their world. At first by direct manipulation of objects, later by substituting words or other symbols for the objects, and finally by organizing and internalizing abstract cues, they go from the very immediate to the distant and hypothetical. *Concrete* operations are the earlier tools, when children sense an order in the immediate world and combine their experiences by noting correspondences and differences. They can read, for example, about this world and move about among the ideas that reading brings. *Formal* operations involve hypothetical reasoning, based on other possibilities than those from personal experience. Reading, of course, serves both concrete and formal operations, but a reader gains the greatest freedom when he can move out and away from his own experiences or from the immediate text he is reading.

Second, there are Piaget's specific mechanisms of conservation, reversibility, and transitivity. A child employs conservation when he notices that something retains certain properties amid change. For instance, a lump of clay does not partically disappear when somebody flattens it out. Reversibility permits an operation to go forward or backward. Thus, in adjusting a balance scale, one adds or removes weights from either pan, all in pursuit of equilibrium. Transitivity requires that one note similarities indirectly and in new combinations: if A=B, and B=C, then A=C. All three of these skills Piaget found in children under twelve, but they came under fine and complete control only later.

As applied to flexibility in reading instead of to mathematical or scientific reasoning, these concepts merge into a potential hypothesis. To be flexible, it is necessary to realize that an author's idea can be put into more than one form, that a given passage can serve various demands, that "reading" is more than an unvarying procession from one word to its neighbor. Reading is "operational" in the sense that words are recognized and classified according to their appearance or sound, then later according to what they mean, and finally when the ideas themselves can be manipulated apart from the specific words employed. In reading, conservation might occur when in one passage a reader recognizes an idea from another, earlier one. Conservation can be reversible, when one moves back and forth among contexts or earlier passages to settle exactly on what is required for comprehension. By transitivity one links ideas or passages across intervening ones, as when synthesizing historical analogies or reading a story in different stylistic forms.

The inflexible reader would then be the person who—in addition to whatever muscular or ocular inefficiencies may hobble him—cannot respond to continuity in ideas, to the similarities that survive variation. He is the person, perhaps, who cannot think of reading as something applied to other ideas "out there." He is tied to the immediate symbolic scope of the words at hand, unable to detach himself from them or rearrange them. It may even be that, out of fear, he refuses to detach himself from his habitual reading pattern. He stays at a familiar, but immature, level in order to protect himself from the uncertainty of the new.

Thus, the transition from concrete to formal operations in Piaget's problem-solving may be likened to the abandonment of slavish devotion to every printed word in sequence. By moving freely among them in search of an underlying or elusive idea, one may sometimes skim, and at other times note the sound or reflect upon inconsistencies. Most readers graduate into flexible reading patterns, just as most children in Piaget's research pass from the concrete to the formal, and learn to handle reversible and transitive operations. But one cannot compare Piaget's pupils directly with flexible and inflexible readers because he has not presented evidence about the different ways children proceed, some readily and others haltingly, through the typical stages. And in particular Piaget has not studied children who—like inflexible readers—prefer to stay on in the familiar world of concrete operations. More systematic attention to individual differences during Piaget's stages might uncover patterns that could explain the persistence of inflexible habits in many otherwise competent readers.

7. Theoretical Design for Teaching Reading

ARTHUR HEILMAN

The topic *Theoretical Design for Teaching Reading* could be approached in different ways. It is obvious that the selection of this topic could not have implied that a startling new or radically different theory on teaching reading was expected. This becomes clear as we consider the factors with which such a theory must deal. Theory for teaching such a complicated process as reading, of necessity must evolve slowly. As it does evolve each and every facet must be tested empirically in the classroom, otherwise we will find ourselves dealing not with a theoretical design but with a hypothetical conjecture. There is nothing inherently wrong in advancing hypotheses, but it would be unjustifiable to advance these as blueprints for instruction.

In the brief space allotted we might possibly deal with two concepts. First, we should attempt to develop an understanding of what is involved in a theoretical design for teaching reading. Second, we should explore the hypothesis that as teachers we are not thoroughly conversant with the theoretical design upon which our present reading instruction is based. If teachers are not aware of the theory which underlies present practice this fact may explain why we have not been effective in rebutting critics and informing interested laymen as to what we are doing and why we do it.

In the field of reading there seems to be some confusion as to what constitutes a method of teaching reading. For instance there are a number of administrative procedures and instructional techniques, each of which may have considerable merit, but which are sometimes confused as methods of teaching reading. "The ungraded primary," various "levels plans," "the Joplin plan," "team teaching," "platoon vs. self-contained classroom," and "in-class grouping," are, in the final analysis, administrative procedures. Each of these provides a particular kind of environment in which learning is to take place and are part of the framework in which the total theoretical design is to be applied. The "experience approach," "phonetic methods," "teaching machines," "the New Castle approach" (use of special visual materials), and "individualized reading" are excellent techniques but in themselves do not merit the designation *method* of teaching reading.

We come now to the question, "What does a theoretical design for the teaching of reading have to deal with—what must it embrace?" Such a theory would have to deal with a number of major factors certainly including the following:

1. The learner.
2. The nature of what is being learned.
3. The ends, goals or *applications* for which the learning takes place.
4. Methodology and materials. (These designed in relation to the previous three factors.)
5. A theoretical design for teaching reading must deal with every reading skill needed at every level of instruction.

It is apparent that these factors merit more discussion than we can give them here. In considering the *learner,* it might be pointed out that it is becoming more and more difficult for the school to convey to the general public that variability among learners is a primary factor in producing variability or "individual differences" in learning to read. There has been a concerted effort on the part of some very articulate self-appointed critics of American education to throw this concept out completely. They say it smacks of John Dewey and the *whole child*. In recent attacks on the reading readiness concept, data are cited that some five-year-olds are capable of learning beginning reading skills. Although teachers have known this fact for years it is now heralded as a new discovery. In the hands of some critics this isolated fact serves as the basis for the facile generalization that all children should be taught reading at an earlier age.

Our present-day concern for the factors of the *nature of reading* and the *goals* in teaching reading are frequently misunderstood. Learning to read is learning a complicated symbolic process and as such is very sensitive to various pressures. Teachers know that undue pressure on children may result in confusion, frustration and non-learning. Numerous goals or purposes for reading could be listed. However, from the standpoint of our theoretical design, the goal of instruction is to treat learning to read as an on going process. Reading is a developmental process as are all other growth processes.

In the final analysis a child does not learn to read in grade one. If he is fortunate he masters certain reading skills. He can be conditioned in grade one to see reading as a meaning-getting process or a series of analytical exercises in pronouncing individual words. If, in grade one he becomes proficient in this latter endeavor, he will make relatively high scores on reading tests because at this level reading tests cannot very well measure the essence of the total reading process. In later years of development it may be brought home to this child, to his parents, and to his teachers that there is a great and important difference between analyzing words in a passage and analyzing a passage, a paragraph or a chapter. Reading is much more than the sum of its parts. This brings us to the fourth important factor in a theoretical design—methodology and instructional materials.

In the past few years it has become popular among critics of present-day reading instruction to focus attention and discussion on methodology alone. They have seized upon phonics, as it relates to reading, and have planted in the public mind the erroneous idea that the present debate is between the advocacy of a *method* which is phonetic versus a method which does not believe in or teach phonic analysis in learning to read. The truth is that there is no method used in America and no materials available for the teaching of reading which does not advocate teaching every phonic analysis skill needed for becoming an independent reader.

This points up the issue of why every teacher of reading should be both conversant with, and facile in explaining to laymen the theoretical design followed in teaching reading. We have made the task of the critics a very easy one because we tend to grant them the premises from which they wish to start. They do not always reciprocate by starting from factual premises. As teachers, we should have ready answers as to how the theory of teaching reading relates to dozens of classroom practices; that terms such as *sight-word-method, whole-word-method,* or *look-and-say method* do not describe present-day method in the area of teaching reading.

We should be able to explain:

1) Why words are taught as whole units before children are asked to deal with letter components.
2) Why consonant sounds are taught before vowels.
3) Why memorizing phonic rules is often less valuable than having children deduce generalizations from words they already know.
4) Why too much emphasis on phonics in beginning reading interferes with seeing reading as a meaning-getting process.
5) That the "controlled vocabulary" of basal series is not any more insipid than the vocabulary taught in any "phonetic method."
6) That readiness instruction is not an educational waste, and that there are sound, logical objectives in a readiness program.

It is not advocated that teachers become rigid in defending *what* we are doing, but rather that we should become more articulate in explaining *why* we do what we do.

In addition to having answers, teachers should be prepared to ask questions of self-appointed critics who write and speak with eloquence and conviction, but whose information is often based on adult introspection rather than knowledge of children or available data. Some questions that might be asked are: (1) What per cent of children failed to learn adequately under the old synthetic-analytic phonic approaches? (2) If two or three per cent of children of 5 years can learn to read should the other 97% be subjected to intensive reading instruction also? (3) What phonic principles needed to make children independent readers are omitted or not provided for in present-day theory and present-day materials? (4) How many children, just embarking on the process of learning to read, find that the controlled vocabulary makes beginning reading materials dull? (No data should be included from adult critics.) (5) Starting from the premise that phonic analysis is needed—can it be overemphasized in beginning reading? (6) Is there any relationship between the answer to the above question and the child who is still "analyzing words" after he has met and analyzed them 50, 100, or 200 times? (7) Is there something inherently bad about instantly recognizing words in reading? If not, is there something inherently bad in teaching children to do this?

In conclusion, it should be pointed out that this brief treatment of the problem of the relationship between theory and classroom practice is not an attempt to catalogue all facets of this relationship. Nor was there an intent to list all issues upon which critics have been either vague or misinformed. Rather, the aim was to cite examples which might illustrate the need for teacher's understanding the relationship between theory and practice and why such understanding would militate against our yielding psychologically sound principles and practices in the face of pressure. These principles and practices should not be thought of only as being defensible but rather that they are essential in teaching reading to all children.

8. Reading English as a Foreign-Language Process

EDGAR MAYER

Even before hearing Dr. Lloyd, you would, I am certain, have agreed that learning to "read" is more than just learning to tell "a" from "b" or learning what sound goes with what letter. Connecting squiggles on paper with speech sounds in the air is certainly hard enough. Yet that is only the easiest and most obvious part; we have usually done far less about the rest—all of the processes by which the written word "comes alive," and which far too few people ever master.

But now consider the poor foreigner, to whom we hope the same squiggles will come to mean exactly what they would to a good *native* reader. The native has, ringing in his ears, most of the patterns of his language; they are all stored in his brain, waiting to lend verity to the written word. If he can once transform the letters into sounds, the words and phrases will "mean" things to him. Even in the rarefied atmosphere of stylistics, the native has material to draw on: he knows a joke when he hears one, and he knows that there are simple, homely ways and bookish, pedantic ways of speaking. *As I see it, the chief task of the teacher and the materials is to challenge the learner—and show him how—to tap these resources.*

Here I am reasoning from two of the basic theorems of linguistics, which I will state as follows:

1) Language is first and foremost *speech;* writing is based on, and follows, speech. And

2) Writing is in many ways an imperfect representation of speech: it leaves out a great many signals (notably stress, pitch, juncture) that we rely heavily on in speech.

Since I've gotten onto theorems, let me continue with 3 other pertinent ones:

3) Language operates in sets of directly *contrasting* items.

4) No part of language has more than vague "meaning" until *context* ties it down.

5) The learner is constantly influenced

by his native language whenever he tries to operate in a foreign language.

Now—as we were saying—whereas the native reader has ringing in his ears the patterns of the language, the foreigner on the other hand has a limited and probably partly incorrect "acoustic image" against which to check the written form; plus which the patterns of his native language will interfere with those of English. This will be true on every level. More specifically, he will have trouble with such matters as these:

—the graphemic system

—the stress within the word, the phrase, the clause, the sentence; and the intonation within the phrase, clause, and sentence

—the phrasing (i.e., placement of junctures)

—signifiers of inflection and derivation

—patterns of word-order

—"associations" (i.e., government and other such matters)

—lexicon (gaps in his vocabulary, but also "false friends")

—exact denotations and connotations (including synonyms)

—levels of style.

Now, many of these are exactly parallel to the difficulities of the native reader, but always with differences of angle and of degree. We could write a book about each. There is so much to say that I hardly know where to begin, or what to leave out. So I am going to restrict myself to two of them. One is, I assume, your chief interest: graphemics. The other is an area where my own experience gives me something to say: teaching vocabulary for reading.

So far my fundamental point has been that the only thing that keeps the foreigner from proceeding just as well as a native is his lack of an "acoustic image." There is only one solution: before we can teach our foreigner to read English, *we must teach him to produce and react to basic spoken English with something approaching the ease of a native.* Anything else will work badly or not at all. Trying to teach reading before speaking is, to say the least, putting the cart before the horse.

This means that if our learner is younger than, say, adolescent, we should teach him to speak English via direct method; if adolescent or older, we should put him through a good audio-lingual course using the methods developed in foreign-language teaching in the last few decades. And then and only then we can go on to teach him to read. For one thing is certain: one rarely learns to read a foreign language profitably and pleasurably if he has no oral knowledge of that language. At best, he learns to decode—a laborious, unpleasant drudgery which he will forever after avoid if there is any way to avoid it.

Assuming that our foreigner is already more or less fluent in the spoken language, what then? If he is already literate in his native tongue, the problem of interference creeps in immediately: just as the native language interferes on the level of phonology, so will the graphemic system of the foreign language interfere with that of English.

Just as an American will read *No hablo espanol* as /nôw háblôw/èspenówl/, so the Spanish-speaker will read *I don't speak English* as /i dónt |espeák| englíc/.

Not only will he carry over his graphemics into English, but he will find it very difficult to get used to a "system" where a given letter capriciously changes its value (*a*=/a, a, æ/—besides "irregularities" like *call*), where there are many letters that aren't pronounced (but you can't predict which), and where you can't even tell which syllable gets the accent.

This means to me that the foreigner needs a short course in graphemics, tied in closely with what he has already learned about phonemics.

There is the pattern of spellings for stressed vocalic nuclei which is carried out fairly consistently, at least in Anglo-Saxon vocabulary:

1. VC final } represent "simple
   VCC anywhere } nucleus";
2. VC before vowel } represent "com-
   VV anywhere } plex nucleus."

Thus *att* in *batted* and *at* in *bat* represent /æ/plus/t/, while *at* in *bated* and *ait* in *baited* represent /ey/plus/t/. I am convinced that the foreigner ought to know this kind of principle explicitly. The details should be taught pattern by pattern (matted, patted, matter), in minimal pairs (matted-mated, latter-later, hatted-hated), and by explicit statement (*a* plus two consonant letters = /ae/, and so on).

Now let me jump to lexicon and reading.

In foreign-language work there has been a curious lack of clear thinking beyond the elementary levels. In the beginning course we carefully and systematically tackle the phonology, morphology, and syntax, designing each lesson to accomplish a meaningful, handleable chunk of work. But as soon as we move to the reading course we abandon all system.

Our readings are chosen apparently for their literary value or their exciting plots, but not for their value as language-learning aids; and apparently we believe it does the student's soul good to look up word after word in the dictionary—or else that there isn't anything we *can* do about vocabulary. Unfortunately, as a veteran of many such courses in which *I* was the looker-upper, I can assure you there is nothing more hateful or demoralizing than having to look up two and three words per sentence. One feels that it is all so haphazard, and that there must be more words than there are stars in the heavens—and how can one ever learn them all?

The fact is, a systematic and interesting approach to vocabulary is possible.

First, we know from word frequency counts that the thousand most frequent words form some 85 to 90 per cent of the bulk of any passage; the *two* thousand most frequent, 90 to 95 per cent; three thousand, about 95 to 97 per cent. This means that our primary task will be to teach our student the three thousand most frequent words—whereupon he will need to look up only one word in 20—one per long sentence, on the average.

But second, utility for the kinds of reading our students will be doing must also count for something. My own experience has been with university students. If they are to read novels, then vocabulary for movements of the body (shrug, nod, kick) and noises humans make (shriek, chuckle) are useful. If government and politics are their meat, then items like *veto, majority, resign* are important. So I suggest treatment by broad fields of interest: education, the arts, economics. For elementary or high school, the topics would obviously have to be geared to the interests of those age levels.

A well-organized course would use materials of this sort. Each unit of work would deal with one broad topic (politics, education), and in each there would be three sets of materials:

—a vocabulary lesson, on the topic, presenting each new word in context

—a short narrative or dialogue, using the same vocabulary, to be learned by heart (just as we do in an elementary course), possibly with accompanying visual aids

—a reading selection that treats the same topic, but chosen for its literary value and its interest and discussability as well as its vocabulary.

I hope I have contributed in some small way to your thinking on this most vital problem: getting people to read with enjoyment and accuracy—or just getting them to read at all.

9. Reading American English as a Native Language Process

DONALD LLOYD

Instead of berating reading teachers with advice to apply linguistics somehow to reading, I wish to apply linguistics to reading and ask you to experience this application with me. If you take seriously what I will have to say to you, I think that you will leave here at least disturbed with reading instruction which does not begin with language and stay close to language throughout. By "language" I do not mean "words and the rules for arranging them in sentences," but the intricately interlocking, multiphased and multileveled system of sounds which compose the stream of English speech.

I wish to begin by considering the good reader and what he does, setting not at the failures of failures but the successes of succeeders in the framework of currently available linguistic knowledge, so that we know not only that the practices of good readers work, but why they *must* work.

My father read himself from a fourth grade schooling to the possession of a fully-stored mind. At twelve he took off from home for a life of hard labor in the wilderness of northern Michigan. On the

Inglis vocabulary test he scored 147 out of 150 words—one higher than the average college professor. He was not a fast reader, but he knew what he read. Reading gave him an education. Longshoreman, lumberjack, railroader, and later a clerk and factory worker, his speech like his store of words reflected a well schooled intelligence.

What does the good reader do? My father, with little education, read early, willingly, and constantly. He read anything. He re-read; he had certain familiar and well-loved books to which he returned year after year. He read with intense concentration; let his eyes see print and he was lost to the world. He read anywhere, in any light—on trains, streetcars, buses, and in cars, even walking down the street. And he read to the end of his life. That is what a good reader does.

Often the good reader is reading before he comes to school; he distinguishes himself early from the non-reader, carrying twenty books home for the non-reader's one, bringing them back and getting more. The good reader seems to establish a bridge between speech and print in circumstances that favor such a bridge, and in one final and complete act of discovery, puts himself beyond all harm. He marches happily to a different drum.

What is that drum? It is the rhythms of his native speech. It is possible to talk about these rhythms rather precisely; there is more to be learned about them, but research has taught us much. Why has research been necessary? Because these rhythms are so obvious as to go unnoticed. Only a rigorous act of will permits us to isolate and describe them.

English seems to use as signals four relative degrees of loudness which we call stress. We call these "heavy," "medium," "light," and "weak." Within a pitch range from high-frequency to low-frequency sounds, English also uses four perceptible changes of pitch level, up or down; we name these "pitches" according to the level arrived at in the change: "low," "normal," "high," and "extra high." In general, the higher pitches accompany the heavier stress; that is, when we say one syllable more loudly than the others, we say it at a higher, rather than a lower, pitch.

Speech does not come out of our mouths in a steady stream; utterances end, and parts of utterances end. Ending a stretch of sound, we may stop the noise sharply, cleanly, or we may let it fade. As we bring it to an end, we can keep the pitch level, let it go up a bit, or let it go down. When we keep the pitch level, we usually cut it off sharply. Otherwise we let it go up a little or down a little as we fade out the sound. English makes use of four of these cuts. One of these, the so-called "plus" juncture, separates words or parts of words; three of them, called terminal junctures, brings to an end the units which we call phonological phrases. A sharp cut-off with pitch at a steady level is a *level,* or *phrase-terminal* juncture; it usually ends a phonological phrase. A fading cut-off with a slight rise of pitch may end either a phrase or an utterance. A fading cut-off with a slight fall in pitch seems to end most statement-sentences.

Heavy or loud stress may shift about in the utterance; when it does, other stresses shift in relation to it. There can be only one heavy stress in a phonological phrase; this is the key stress to listen for as you are forming words into groups. The terminals, too, override each other. A level or phrase-terminal replaces any lesser juncture as we speak a little more slowly and use more heavy stresses; a fade-rise terminal can replace a level terminal or a lesser juncture; and, as we speak very deliberately, a fade-fall terminal can replace any of the others.

Thus, there are as many phonological phrases in an utterance as there are heavy stresses. This neat mechanism is what we might call the "long wave" of the utterance; it is the dominant rhythm. The phonological phrase may be as short as a single syllable. It may be a word, a phrase, or a linkage of phrases. The phonological phrase is thus contractible, expansible, and linkable. An utterance divided into phonological phrases is something like a string of sausages stuffed by a careless hand—some large, some small, some long, some short, but each set off by a neat twist of the casing from the sausage before and after.

There is also a shorter beat to the rhythm of the English utterance—the intrinsic stress patterns of individual words and sequence of words. Words and word groups spoken alone form phonological phrases, and are coterminous with them. But when words or word groups are combined into longer phonological phrases, only one heavy stress remains; all others step down. No other stress can rise above medium without forcing or being forced by an intervening terminal: stress carries length or quantity with it; a stressed syllable is not only louder but longer than an unstressed syllable; and as stressed syllables are overlong in English, unstressed syllables are overshort.

This other rhythm of submergence or suppression of loudness changes the form or sound of words. The teacher says, "C-A-N spells *can*. You c'n understand that, can't you? C-A-N spells *can*." Or she says, "S-U-B-J-E-C-T spells sub*ject*. Sub*ject*. Now let's turn to another subject."

Another kind of machinery of communication is also at work—the syntactic mechanisms of English. The English utterance seems to be constituted of certain large sequences of order, *"working places"* or *"sentence functions."* Traditional grammar has varying names for these functions; they are most commonly called subject, simple predicate, indirect object, and direct object. A basic sentence may come down to only one of these four; no basic sentence has more than four.

We may call three of these four sentence functions *noun functions* and one a *verb function*. Familiar sentence patterns are made of two, three, or four functions: two functions, NOUN and VERB—*Birds sing;* three functions, NOUN, VERB, NOUN—*Birds sing songs;* four functions, NOUN, VERB, NOUN, NOUN—*Mary gave mother a hotfoot.*

Any noun function may be carried in a sentence by a noun, a verb, an adjective or an adverb; by a group (one of these words with its pre-modifiers); by a cluster (one of these with its pre- and post-modifiers); by a prepositional phrase, or by one of two basic types of clauses. The verb function may be carried by a verb or by a verb group a (verb with its pre-modifiers). Syntactically, then, we work down from the most abstract unit, the sentence function, to the unit which performs this function, to the class or classes of word which make up the syntactic unit, and finally to the actual word which is spoken and heard.

Words do not give meaning to sentences; sentences demand words whose meaning will be found and defined by and within the sentence. Thus, any approach to sentences by way of words and word-meanings is illusory.

It is the complexity of language operations which the reader must bring to any passage in order to find out what the actual words contribute to the sense of the passage. This complexity is not generally known to reading instructors and not used by them, yet it is the key to the sense of the passage. It is on letters and words that textbooks and guides to reading instruction concentrate wholly.

I may now distinguish the good reader from the poor reader. The good reader distinguishes on the page those elements which I have exposed for you, and guides his eyes by them. He picks up words in sequences: his feeling for the phonological phrase tells him which words to take together and which to shunt apart. The good reader stumbles by himself and at a very early age on this clue to the page. Nobody has known enough about it to teach him to use it, and he ordinarily cannot explain why he reads the way he does. Reading teachers have been right in worrying about the student who moves his lips as he reads because he is reading each word as a phonological phrase. If he cannot find the author's intended phrasing, he will make his own and he will make it wrong. But reading teachers have been wrong in worrying about other subvocalizing, because this is probably intonational and probably contributory to good reading. Good reader and poor alike have stumbled on their reading practices, for who has been able to expose this relation to either one? Certainly not the authors of current textbooks nor most of the teachers who are using these books.

Scholars generally agree that the child who goes to school is in full command of the system of his language—as presented to him by his family and his community—and has it so thoroughly internalized that he uses it without thought. As he learned his speech from experience we may expect that he will learn written language from reading. His speaking vocabulary when he comes to school is already old and beyond measure. He needs only to learn how the words he knows (their pronunciation varying within intonation patterns) relate to writing and print. As he learned the syntax and vocabulary of speech through hearing and speaking, he will learn the grammar and vocabulary of writing through reading and writing, and not through dictionary study, word lists, and grammar. Our problem is to set him as free in reading and writing as he is in hearing and speaking.

A theory of language and reading must embody a theory of words and meanings compatible with the whole. Children learn words from reading and do not learn reading from word-study. The word is simply one element in a hierarchy of elements which make up the sentence.

The sentence is a kind of game of twenty questions. It is possible in that game, within twenty questions, to zero in on a particular person or object in the mind of someone else. By eliminating large masses of possibilities, you finally get down to the point where an educated guess has a high probability of success.

The sentence operates similarly. Words are highly abstract items; each has a wide range of recorded significances. Outside a sentence, a word has no specific significance. If I give you the word *man* in isolation, you cannot possibly guess what meaning I have in mind for it. In the sentence, "Man has lived on this earth for fifty thousand years," *man* obviously means the human race. In the sentence, "Man never manages to get along with woman," *man* indicates the male half of the human race. In each of a dozen sentences *man* may have a different significance, without ever meaning "an adult male human being."

All common words are multi-referential; to express specific meaning, their range of possible significance must be curbed. The instrument for doing this curbing is the sentence, and the device is like the game of twenty questions. Each meaning-element (intonation, pattern of order, function, word-class, and word) cuts away from each other meaning element anything which is incompatible with itself. In the end, the shrewd hearer or reader may know everything about a word except exactly what it does mean — its place in the sentence, in the sub-unit, in the word class, and in the general area in which it is significant. In fact, he may be so close that he mistakes the meaning for its exact opposite.

The means by which we learn words from reading has been defined as "bridging the gap with the minimal semantic burden necessary." Thus if I meet the word *stroll* in "He strolled in the garden," I can use *was* to carry the minimal semantic burden. Later I may meet "He strolled through the town," and I have a sense of motion. Little by little, in different contexts, I will narrow the sense down until I have it cold. The meaning of a form lies in its distribution—in the kinds and classes of other structural signals among which it appears.

Reading instruction tied to speech should begin with familiar materials. It should not involve an attempt to change the children's speech, because that speech is the teacher's strongest ally; the child must learn to see the way he normally talks in the print on the page. Instruction should relate to the total speech system, dealing honorably with the fluctuating relations between letters and the sounds of actual speech. The students should be provided with intonation contours rather than permitted to puzzle out their own. The teacher should talk out in normal speech patterns what is on the page and encourage the children to do so also. No "reading singsong" should be permitted to develop. Reading instruction should consist of reading, and not of related but ineffectual busywork. Words should never be treated in isolation; they should be handled in signal groups that are also meaning groups.

Teachers must know the *sound system* of English, especially that of the children's speech — and they should let it alone. Reading instruction should not be combined with speech correction, or with an effort to change the dialectal peculiarities of the children's speech. Reading teachers should know the syntax of English speech well enough to manipulate the language and create patterns for practice. Carl Lefevre and I have included many of these practice patterns in our forthcoming book, *Linguistics and the Teaching of*

Reading. They may be of use as models.

Reading teachers should have enough of the dramatic impulse to exaggerate, to push loud stresses up to extra loud and high pitches up to extra high: "The sky is falling," said Henny-penny. "Let's go tell the King!" "Let's," said Foxy-loxy, "but first, let's stop at my house for dinner." And teachers should nourish the dramatic impulse in every child, the impulse to push his own loud stresses up and his own high pitches higher, and to emphasize the strong, unsteady, slightly loping rhythm of his native speech. They should make every reading lesson a lesson *in* reading, not a lesson *about* reading.

If reading is a native language process, then the youngster, who must carry to the page the signals that he finds on the page (if he is ever to find them there) can be helped to discover in his own free speech all he needs to make him a good reader. The teacher must work in terms compatible with the familiar speech of the child. Otherwise he will blunder along with it unawares, he will crisscross it irrelevantly without knowing that he is doing so, or he will blunder head-on into it.

We cannot afford such blunders. Our society places increasing demands upon literacy. In our world of vast and ever-vaster organizations, literacy becomes day by day more essential to meaningful citizenship. Each reading cripple is a badly wounded person, a social reject in his own mind and in the minds of others. If blundering with language tends to favor the development of reading cripples, reading instruction is obligated to discover the harmonies of language and move in harmony with them.

10. Bloomfield-Barnhart—*Let's Read*

ROBERT POOLEY

Nearly twenty-five years ago Dr. Leonard Bloomfield, an internationally renowned linguist, set down a method for teaching reading. He did so because he felt that the methods then in use failed to make use of scientific information about English very well known to linguists, but little known or ignored by those who educated children. By his method his son learned to read, as did also the son of his friend, the lexicographer Clarence Barnhart. So also did other children, whose parents heard of the method and used it. Encouraged by the successes and larger scale success in private school classrooms, Bloomfield and Barnhart attempted to publish the method to introduce it to educators. Neither publishers nor educators were interested, despite repeated efforts. At long last, through the aid of a foundation and the interest of an editor of an educational press, himself a student of Dr. Bloomfield's, the work was published in 1961 under the title of *Let's Read*. It is my privilege to present briefly the essentials of the Bloomfield-Barnhart method, and to ask specialists in reading to give it such trial as sound educational research warrants.

Bloomfield begins with the axiom that reading is the relation of printed (or written) words to speech. From this axiom it follows that the foundation of successful reading is the command of the letters that form words so that words may become speech as quickly as possible. English, despite its variations and inconsistencies, is an alphabetic language in its written form. It is sound to start with this principle, even though at a later time some of the non-alphabetic variations of English will have to be taught. No matter what method of early reading is used, children learn assisted or unassisted to read alphabetically. Without this learning, the tremendous growth in vocabulary made by children would be impossible except for those gifted with photographic memories. This alphabetic association, which in word-reading is a by-product, Bloomfield makes central to his system.

Since children always learn to read aloud and only after some years bypass active vocalization, the primary essentials of reading are *letters* and *phonemes*. The Bloomfield approach sets up a basic relationship between these two elements so that the child can quickly and easily read for himself an ever-expanding vocabulary resting upon the association of letters and phonemes.

This attention to the sounds of letters may falsely be called phonics. Bloomfield specifically denies that his system employs phonics. Phonics, he says, is presented as though the child were learning to speak. If he cannot speak, he is not ready to read. Furthermore, phonic methods isolate speech sounds, whereas phonetic methods always treat sounds in combinations. But the application of phonetic principles to the creation of a reading method does not imply the teaching of phonetics to children, but only the use of phonetics to establish valid letter-phoneme relationships. This system begins with regular spellings, to teach the child to respond vocally to the sight of letters. Later he is trained to respond correctly to irregular spellings. Always he must respond vocally to what he sees in print or writing.

The essence of the Bloomfield approach is concentrated in these assertions: The grasp of content in reading rests upon an understanding of the words used in their combinations. What is understood in hearing is understood in reading. The child must focus upon converting letters to speech. Content must wait upon his having enough practice to be able to reflect on the content while producing the sounds. The effort to make him realize content from the sight of whole words is the underlying fallacy of current reading methods. Satisfaction to the beginning reader is not in the sense (content) of the words, but in the power to pronounce them. There is as much reward in reading *nin* as in reading *pin* or *din*. The child succeeds in these pronunciations, and this success is ample motivation for perseverence.

With these basic principles in mind, let us now follow the steps in the Bloomfield-Barnhart reading method:

1. Teach the child the letters of the alphabet in their normal order, and have him name them. Begin with capital letters, and make the recognition and naming an interesting game. Some two-year-olds can do this easily; most three-year-olds will find it easy. When the capital letters can be correctly named, move to the lower-case or small letters, teaching them in association with the matching capitals. The child must be familiar with all the letters, both capital and small, before any reading is begun.

2. It is extremely important at this stage to direct movement from left to right in all materials presented to the child, even in the illustrations used. Never reverse direction in pointing to letters, so that movement from left to right becomes an ingrained habit.

3. Establish at the earliest approach to reading that *letter equals speech sound to be spoken,* the sound being that found in normal letter groups forming words, never sounds in isolation from words. At the outset each letter is used with only one phonetic value, and silent letters are avoided. Two-letter and three-letter words are used at the beginning. Because of children's familiarity with and appreciation of rhyme, it is best to group the words by terminal sounds, *e.g., bat, cat, fat,* etc.

4. Each word is spelled and then pronounced. The goal is to distinguish the change in letter and sound from word to word. Nothing should deflect the child's attention from pronouncing each word correctly. No connection with meaning is stimulated, except as the child himself may be aware that he is pronouncing a word that he knows. No grouping of words for meaning is used at this beginning stage.

5. Because making discriminations of sight and sound is difficult, early lessons must be kept short. It is important that the child succeed, not be pressed beyond his competence.

6. Nonsense letter groups are the test of the child's success in reading. Moreover, combinations of letters in short form without sense become words in longer combinations: *e.g.,* the child will use *han* in *handle, mag* in *magnet, Jan* in *January.*

7. Continue the process of pronouncing letter combinations with no association with meaning for a considerable time, or until the child can pronounce most short letter combinations without help.

8. Assist the child to make such transitions as are involved in moving from *lab* to *slab, sag* to *slag, cat* to *scat,* etc.

9. Long association with "regular" spellings is required before progression is made to the commonest "irregular" consonant words, and later to the commonest "irregular" vowel words.

10. Meaning develops from increasing ease in pronunciation. When the child can

pronounce letter combinations with sufficient ease to hear what he is reading he will become aware that he is saying words that he knows. In class groups he will hear what other children pronounce and will recognize the sounds as words. In time he will be amused to pronounce combinations of letter-groups that make sense and will increasingly relate without effort meanings to the words he is reading. Reading vocabulary develops from his power to read new words unaided, or with very little aid. To develop independent reading power is the goal of the Bloomfield-Barnhart method.

No claim is made by the authors or by this reviewer that the method here briefly outlined is infallible, or that it is superior to other methods of reading. It is presented rather as a method founded upon new principles, and is worthy of examination, trial, and unbiased evaluation. For such trial and evaluation the authors and I present the book to specialists in reading for scholarly consideration.

Several uses of the book *Let's Read* seem apparent. Undoubtedly it will continue to be used as a method for parents to teach a child to read in his home. The authors have been careful to indicate the signs of readiness for such instruction, and to warn against advancing the child beyond his powers. The book in its present form will also be used for foundational reading in small private schools, in which application it has already shown success.

Experimentation with the method for aiding retarded readers in remedial classes offers interesting possibilities. It is not unreasonable to suppose that the child who is frustrated by one approach to reading may make a fresh start and gain confidence with another.

Finally, and most important, the book should challenge large-scale, carefully prepared and properly controlled reading research for comparison of the Bloomfield system with traditional systems. Teachers for the Bloomfield method must be informed and willing volunteers, adequately trained to use the system as directed. The results of such an experiment, or series of investigations, can determine with assurance the value to the teaching of reading in the Bloomfield-Barnhart method.

11. Reading in the Light of Major Forms and Objectives

HARRY R. WARFEL

The latest discoveries about the nature of language have important implications for reading instruction. The new insights direct attention to language as the instrument whereby ideas are transmitted from one mind to another. Hitherto, primary emphasis has been on perceptual problems and vocabulary in the reading process, but there has been no adequate theory of the relationship that exists between these two elements—the human body mechanisms and the areas of knowledge. I should like, therefore, to take a step beyond the conclusions which I reached in *Language: A Science of Human Behavior* and propose a context in which all elements of the reading process can be viewed as parts of a single integrated performance. Particularly I wish to demonstrate that the language system is the chief, though usually the disregarded, element in the reading process.

Language is a physical manifestation—a set of sounds emitted from the mouth or, as a substitute therefor, a set of graphic marks placed in homogeneous relationships on a durable substance. The origin of the process is in the human body; the purpose of the action is to transmit a vocal or written message to one or more other human bodies. This process is possible because all human bodies have identical working parts that engage in identical integrated operations for identical purposes. The sender's nervous system originates and controls the language-coding process (the sounds or marks which the sender makes), and similar receiving nervous systems decode the messages which have been transmitted. On the level of human physiology, granted that the communicators suffer neither lack nor loss of brain or organ, there would seem to be no mechanical reason why complete identity in giving and receiving messages is not possible. But our experience proves otherwise. Despite the mechanical equivalence of sender and receiver, an inequality shows up. The usual explanation has been that the factor of intelligence causes communication weakness or failure. In view of the fact that mongoloids, despite brain lack, can carry forward intelligible communication, serious doubt arises whether intelligence is the major factor in the language process. The production and reception of language are habit patterns and must be so viewed.

Reading is a mechanical, habitual process that must proceed in harmonious relationship with the speech-producing process. (In the earliest stages, reading requires talking.) Again granted that there is no lack or loss of brain or organ, the reading process should go forward with the pefection inherent in the human-body mechanisms. Again it must be admitted that there is a breakdown: excellent speakers sometimes are poor readers, and some halting speakers are superb readers. These apparent inequalities of performance certainly are not traceable to intelligence. There must be another factor of essential significance.

When the language process is examined behavioristically, it is apparent that three distinct elements or systems combine to make oral and written communication possible. The first is the human body. The second is the language code. The third is the area of knowledge about which the human body frames or receives a message in a specific code. Each of these elements exists independently of the other. Although all human beings are organically alike, each person possesses and uses only one or a few of the three thousand different language codes. Languages do not exist a priori in the mind. They exist apart from our awareness of them. Similarly the areas of knowledge, whether of nuclear science, or of calculus, or of plant pathology, do not depend for their survival upon their presence in your mind or mine. Of course, every individual language and every knowledge area needs users for its preservation, but each exists as a separate entity that can be viewed as objectively as the human body.

It is true that the language process is an internalization within the human body and that the code and the area of knowledge, or at least a part of each, must be in the human mind before they can be put to use. Thus if I want to ask the question, "Do you speak English?" I can say *"Sprechen Sie Englisch?" "Parlais vous anglais?" "Parla inglese?"* or *"Habla usted inglés?"* only if this much of the code of these tongues is known to me. Similarly if I say "Ontogeny repeats phylogeny," the intelligibility of my sentence depends not upon your body mechanism alone or upon your capacity to use the English language but upon your familiarity with these vocabulary items in the area of knowledge called biology.

Each of these three elements has its own methods and logic of operation. Since language depends upon physiology, it is doubtless true that the human nervous system imposes analogous principles upon the operation of language and of subject matter; for example, the successive, linear, discrete sensory messages that enter the human body when one eats an apple are somehow combined into a single complex in accordance with principles of order, unity, and form. Because every language code is a product of the human nervous system, the same principles must exist in each one. But a language code has its own methods of operation, as with the *s* in English that forms the possessives and plurals of nouns, or *ed* that forms the past tense of regular verbs. Each language code has its own way of making statements, as with English "I am cold" and French *"J'ai froid"* (that is, "I have cold"). Each area of knowledge has its own mode of procedure that is independent of the nervous system and of the language code. For example, Euclidean geometry proceeds with a set of postulates that include the axiom that the sum of the angles of a triangle is 180 degrees, but non-Euclidean geometry postulates that the sum may be either more or less than 180 degrees. Algebra has different principles from arithmetic, and calculus has still other principles. The procedures or the logics of the different areas are unique; though language can carry each of these, the language system does not impose its principles upon those of calculus or oceanography. Thus three wholly different systems of operation and logic lie imbedded in any simple statement which is uttered by language.

The systems of the human body and of a language code are permanent, finite, and fixed. The human body and a language code are like finite-state machines. But an area of knowledge is always changing, and the logical procedures may change. Thus astronomy (but not the universe) underwent a tremendous change when the center of our universe was shifted from the earth to the sun. Political science changed successively as the logic of the divine right of kings gave way to a theory of popular control, and then in the last century the logic of democracy was challenged by those of fascism and communism. A dialectic belongs to the area of knowledge; though originated in the human brain and expressed by language, a dialectic has no necessary connection with the nervous system or the code of a language. The meanings of words change as they are taken over into new areas of knowledge or as new dialectical or logical systems are created for the handling of ideas. I repeat that the nervous system and the language code do not change to accommodate these ideational changes that are accomplished through vocabulary.

The reading process thus involves the interaction of the human body, the language code, and the vocabulary manipulations of an area of knowledge. The body takes in and acts upon stimuli that come primarily through the eye. These stimuli are the graphic marks of a language code. This code is a mediate instrument between the human body of the sender who prepared the stimuli and the human body of the receiver who is seeking to comprehend the message delivered by the code. Comprehension can occur only when the code is present within the reader's mind and when the area of knowledge is, at least, of interest to him. That is, the reader must have some desire and an adequate cognitive experience to take into the nervous system the ideational materials which are being presented.

Great literature is achieved through the artistic use of language. I now wish, therefore, to indicate the structures implicit in superb dramas, poems, prose fiction, and essays. When extended discourse is presented in one of the literary forms, additional modes of structure are necessarily present; these devices for shaping expression are found in literary criticism in haphazard rather than systematic form. In an analysis of the reading process a full explanation of them is desirable. In this short paper I can merely name them and briefly illustrate their presence in a familiar but little understood poem. These language structures are related to:

1. The idea or the area of knowledge being discussed and its vocabulary.
2. The literary genre.
3. The rhetorical organization.
4. The language code and its syntax.
5. The image system.
6. The musical patterning.

A speaker or writer must first have an idea which he wishes to communicate. Thus Sidney Lanier in "The Marshes of Glynn" desired to show that a mystic vision is possible when the tidal action of the sea is examined in relation to the marshes. His statement must be made in accordance with the structuring, logic, and vocabulary belonging to the theory that man while in the flesh can commune directly with God. Traditionally the steps in this process involve purgation, meditation upon holy thoughts, contemplation of the divine person, illumination or the shining of a great light into the mind, the disembodiment of the soul at the vision of God, the union with God, and the ecstasy associated with this experience. Lanier put these steps of the mystical process in the poem.

Second, a particular form of discourse must be chosen. Lanier might have selected music or painting, a drama or prose fiction as readily as poetry. He happened to choose lyric poetry; therefore, his composition must follow those rules of structure which apply to poetry and to lyric poetry in particular.

Third, the rhetorical organization of the idea had to be determined. Lanier might have used the inductive method, the deductive method, the method of comparison and contrast. He happened to choose to organize his materials into a time sequence of three pictures: noon, twilight, and night.

Fourth, the particular language code had to be selected; in this case it was English. It might have been any other language. Having selected English, Lanier was required to follow the structural procedures of English. One may note in passing that the first independent clause runs to 20 lines containing 161 words, and that the complete sentence extends through 36 lines with a total of 339 words (counting compounds as one word). The intricacy of this long sentence was possible only because each element conformed to the patterning operations of the English language.

Fifth, Lanier chose to employ the metaphor system of language to make the physical facts of the marsh (with its trees and grasses), the sea, and the movement of the sun in bringing night correspond to the spiritual events which constitute the mystic vision. The structuring of the images necessarily required selectivity in accordance with the original idea.

Sixth, the rhythms and melodies which play through the composition—all discourse has its musical accompaniment—must be unified and in harmony with the author's purpose. The alternation of long and short rhythmic passages and their melodic differences are apparent to an ear sensitive to the music inherent in language. But this music is a structured addition; it is not in the idea, the genre, the rhetoric, the code, or the image system any more than each of these is in any of the others.

The implication for the reading process of this statement is that the reading of any extended discourse must involve, first, the human body for the rules of perception and the physiological processes; second, the idea and its mode of structuring; and, third, those areas of language which operate as structured systems: genre, rhetoric, syntax, images, and music. Further, the implication is that each of these structuring systems must be lifted to a reader's awareness at the moment when he is capable of understanding its procedures. Only partial solutions to reader's problems have been given by phonics, sight-reading, and ideational reading. The whole language process must be examined. Extensive research in all areas is necessary, both as they operate individually and as a systematic and unified complex. Reading is a performance like playing the piano, and superior performance can be achieved only when all the language elements are fully understood and exploited.

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